JANUARY 10, 1923

THE RUBBER AGE

VOL. XII. NO. 7

Copyright, 1923, by The Gardner, Moffat Co. Inc.

TABLE OF CONTENTS

Annual Meeting and Banquet of the Rubber Association of America 241
Business Pendulum Swings Forward 246
Latex—the New Face at the Door 247
Scientific Management for Rubber Manufacturers 252
Export Representative Declares Government Report on Mexican Tire Situation Harmful 255
Areas Planted to Rubber in British Malaya 256

NEWS OF THE INDUSTRY
A Review and A Propheey 257
Firestone Urges Gov't to Develop Rubber in Philippines 257
Irving R. Bailey Dead 258
News Briefs 257-258-262

MARKETS
Cottons and Fabrics 259
Chemicals and Compounding Ingredients 260
Crude Rubber; Reclaimed Rubber; Scrap Rubber 261
American Rubber Patents; Trade Marks; New Incorporations 262

PUBLISHED ON THE 10th AND 25th OF EACH MONTH BY

THE GARDNER, MOFFAT COMPANY, Inc.

PUBLICATION OFFICE: HIGHLAND, N. Y.

ADDRESS ALL CORRESPONDENCE TO BUSINESS AND EDITORIAL ROOMS: 225 FOURTH AVENUE, NEW YORK

Telephone: Stuyvesant 4553

Advertising Forms Close Ten Days Before Date of Publication. Rates for Advertising Will Be Furnished on Application. Subscription Price: $2.00 per Annum. Single Copies 10 Cents. Canada, $2.50 per Annum. Foreign, $3.00 per Annum.

F. R. HENDERSON & CO., Inc.

CRUDE RUBBER

111 BROADWAY, NEW YORK

CABLE ADDRESS
"REDSONDER, NEW YORK"

LIEBER'S
A. B. C. 5th EDITION and
PRIVATE CODES

LONDON
HENDERSON, FORBES & CO., Ltd.

SINGAPORE
HENDERSON BROS., LIMITED

BATAVIA
HENDERSON BROS., LIMITED

"A Guaranteed Rubber Latex"

F. R. HENDERSON & CO., INC.
MALATEX
New York City

The natural liquid product with a guaranteed minimum of 30% dry rubber. Preserved with ammonia, an effective and harmless anti-coagulant

CABARRUS COTTON MILLS

M. L. CANNON
PRESIDENT & TREASURER

KANNAPOLIS, N. C.

Superior Quality Tire Fabrics

EGYPTIAN-PEELER
KARDED & COMBED
CORD & SQUARE WOVEN

CANNON MILLS, Inc.
Selling Agents

NEW YORK
55 Worth St.

CHICAGO
327 S. La Salle St.

A. W. REID
Representative

THE
RUBBER AGE

VOL. XII. JANUARY 10, 1923 No. 7

Annual Meeting and Banquet of the Rubber Association of America

Horace DeLisser, Chairman of the Board of the Ajax Rubber Company, Elected President for 1923—Five New Directors Chosen—1000 Present at Waldorf-Astoria Dinner

HORACE DELISSER
Elected President of the Rubber Association of America for 1923

THE Rubber Association of America, Incorporated, celebrated its twenty-third anniversary with an elaborate banquet in the Grand Ballroom of the Hotel Waldorf-Astoria, New York City, on the evening of January 8, at which about 1000 guests were present, many of them rubber manufacturers from distant parts of the country. The dinner followed an entire day given over to business meetings.

Fourteen divisions and committees met during the morning and afternoon. The general meeting of the association took place in the Astor Gallery of the hotel at three o'clock; and the board of directors, including the five new directors elected at the afternoon session, met shortly after four and chose Horace DeLisser, chairman of the board of the Ajax Rubber Company of New York, the new president of the association for the year 1923 to succeed H. T. Dunn, president of the Fisk Rubber Company.

The Five New Directors

Ninety-eight votes were cast for the five new directors elected, as follows: W. O. Rutherford, vice president, B. F. Goodrich Company; C. E. Stokes, president, Home Rubber Company; H. Stuart Hotchkiss, president, General Rubber Company; W. E. Bruyn, treasurer, L. Littlejohn & Co., Inc.; and G. B. Dryden, president, Dryden Rubber Company.

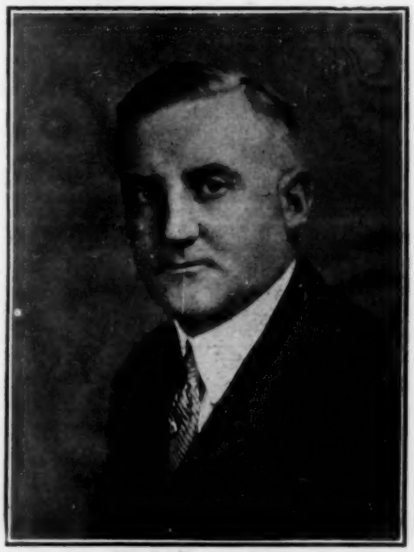
The following was the schedule of division and committee meetings: Rubber Reclaimers Division, Yale Club, 10 a. m.; Hard Rubber Division, Yale Club, 10 a. m.; Mechanical Goods Division, Yale Club, 10 a. m.; Traffic Committee, New York Athletic Club, 10.30 a. m.; Executive Committee, Tire Manufacturers Division, Yale Club, 10.30 a. m.; Cycle Tire Manufacturers Committee, Yale Club, 10.30 a. m.; Executive Committee, Rubber Sundries Division, Yale Club, 11 a. m.; Rubber Clothing Division, Yale Club, 11 a. m.; Footwear Division, Union League Club, 12 noon; Foreign Trade Division, Yale Club, 12 noon; Rubber Proofers Division, Yale Club, 12 noon; Tire Manufacturers Division, Yale Club, 1 p. m.; Rubber Sundries Division, Yale Club, 1 p. m.; Rubber Heel Division, Yale Club, 1 p. m.

No account of what transpired at these various sub-meetings was given out by officers of the association, but summaries of the most important happenings and discussions will no doubt be available to member firms in due course.

The annual meeting of the association in the afternoon had more than one hundred representatives of member firms present to vote on the various matters offered for discussion. President Dunn occupied the executive chair, assisted by A. L. Viles, secretary and general manager.

Conference with Secretary Hoover on Crude Rubber Restriction

The most important topic which came up at the meeting was the forthcoming series of conferences between representatives of the Rubber Association of America and the three representatives of the Rubber Growers' Association of London, who are due to leave England on the Olympic January 10 and to arrive in New York on January 17. Chairman H. Stuart Hotchkiss, of the association's special committee on crude rubber restriction, made a report to the meeting on this recent development and said that plans were under way for these American-British conferences in New York; Akron, Ohio; Trenton, N. J., and perhaps other cities where important interests of rubber manufacturers and importers are centered.



W. O. RUTHERFORD
Vice President of the B. F. Goodrich Company, Akron, Ohio—Newly Elected Director of the Rubber Association

Secretary of Commerce Hoover has invited Messrs. Dunn and Hotchkiss to go to Washington and discuss with him the crude rubber restriction plan as it affects manufacturers and dealers in this country, and they left for the national capital on January 9 for this purpose. It is quite likely that while there they will arrange for an important conference in Washington between Mr. Hoover; Mr. Palmerton, chief of the rubber division of the Department of Commerce; Messrs. Dunn and Hotchkiss and other members of the association's crude rubber committee; and the members of the British delegation from the Rubber Growers' Association, two of whom are members of the original Stevenson committee which co-operated with the British Colonial Office in making restriction and the present export duty on rubber legal enactments in Malaysia, Straits Settlements and Ceylon.

In his report to the members Mr. Hotchkiss laid stress on the fact that the visit to this country of the British rubber men, who plan to return on February 10, was in the nature of a get-together meeting to enable both sides to obtain a true picture of the situation. It would give everyone in this country interested in rubber an opportunity to meet these important representatives of the large rubber estates in the Far East and learn the true situation in regard to plantation costs and investments. On the other hand, it would give an equal opportunity to rubber manufacturers, importers and dealers in the United States to present to the Britishers a true picture of the situation on this side for the latter to carry back with them to the estate owners. The chairman said he looked for good results to follow the conference in this country.

Association Assets $205,059.77

The reports of association activities during 1922, submitted by General Manager Viles in a printed booklet of eighteen pages, was accepted by unanimous vote, as was also the report of G. B. Hodgman, treasurer, showing receipts for the year $176,613.83 and expenses $144,595.84, leaving a surplus of $32,017.99. The statement showed assets as of December 31 last amounting to $205,059.77.

The accounting committee submitted a report of its recommendations for a plan of uniform cost accounting for the rubber industry, in which it asked for an appropriation of $8,000 to $10,000 to employ expert accountants, under the supervision of the committee, to do the work for which the members of the committee could not individually find the time from their company duties. This report was accepted, with power given to the incoming board of directors to act upon the committee's plans.

A. L. Viles
Secretary and General Manager, Rubber Association of America

Banquet a Big and Brilliant Affair

It is not exaggerating to state that this twenty-third annual dinner of the Rubber Association of America was the largest, the most brilliant, and the most generally successful of any of the long line of similar affairs that have preceded it. In the first place, the attendance was probably greater—in the neighborhood of 1000 members and guests being present—and it was considered one of the largest dinner gatherings ever assembled at the Waldorf. Secondly, the array of prominent national speakers was the most representative the dinner committee has succeeded in inducing to appear at these events; and the only disappointment and source of regret was that United States Senator William E. Borah of Idaho, one of the foremost leaders of the Senate and an orator and statesman of national fame, could not accept the committee's invitation because of pressing public matters in Washington. He was to have spoken on the interesting and timely subject, "The Recognition of Russia."

THE MENU

LYNNHAVEN OYSTERS
WESTMORELAND SOUP, EUGENIE
Celery Salted Nuts Olives White Rock
FILET OF SEA BASS, BONNE FEMME
SWEETBREADS FLORENTINE
Artichoke Dubarry, a la Waldorf
BREAST OF CHICKEN, COLBERT SAUCE
Hearts of Lettuce, Russian Dressing
PLOMBIERE OF CHESTNUT ICE CREAM
Assorted Petits Fours Pall Mall Cigarettes
COFFEE

As it was, however, a former United States Senator, Charles A. Towne of Minnesota, now a prominent attorney in New York City, acted as toastmaster; two other United States Senators, George H. Moses of New Hampshire, and Patrick Harrison of Mississippi, delivered eloquent addresses, the former speaking on the subject "The Sales Tax" and the latter on general political and economic conditions in Europe as they affect the members of the rubber industry and other business interests in this country; and a representative from Maine in Congress, Carroll L. Beedy, completed the quartette of notable speakers, his topic being "The Government's Desire to Aid Business by Constructive Legislation." All in all, it was one of the most brilliant displays of oratorical fireworks to which the members and guests of the association have ever been treated.

Before the speech-making began announcement was made that Mr. DeLisser had been chosen as the new president of the association and after the applause had subsided, in a modest little talk he thanked the association for the honor it had conferred upon him and recited briefly the history of his own company from very small beginnings to the prominent position it today occupies in the tire industry. The members of the association feel that they are fortunate in having a man of Mr. DeLisser's character and qualifications succeed to another able executive like Mr. Dunn.

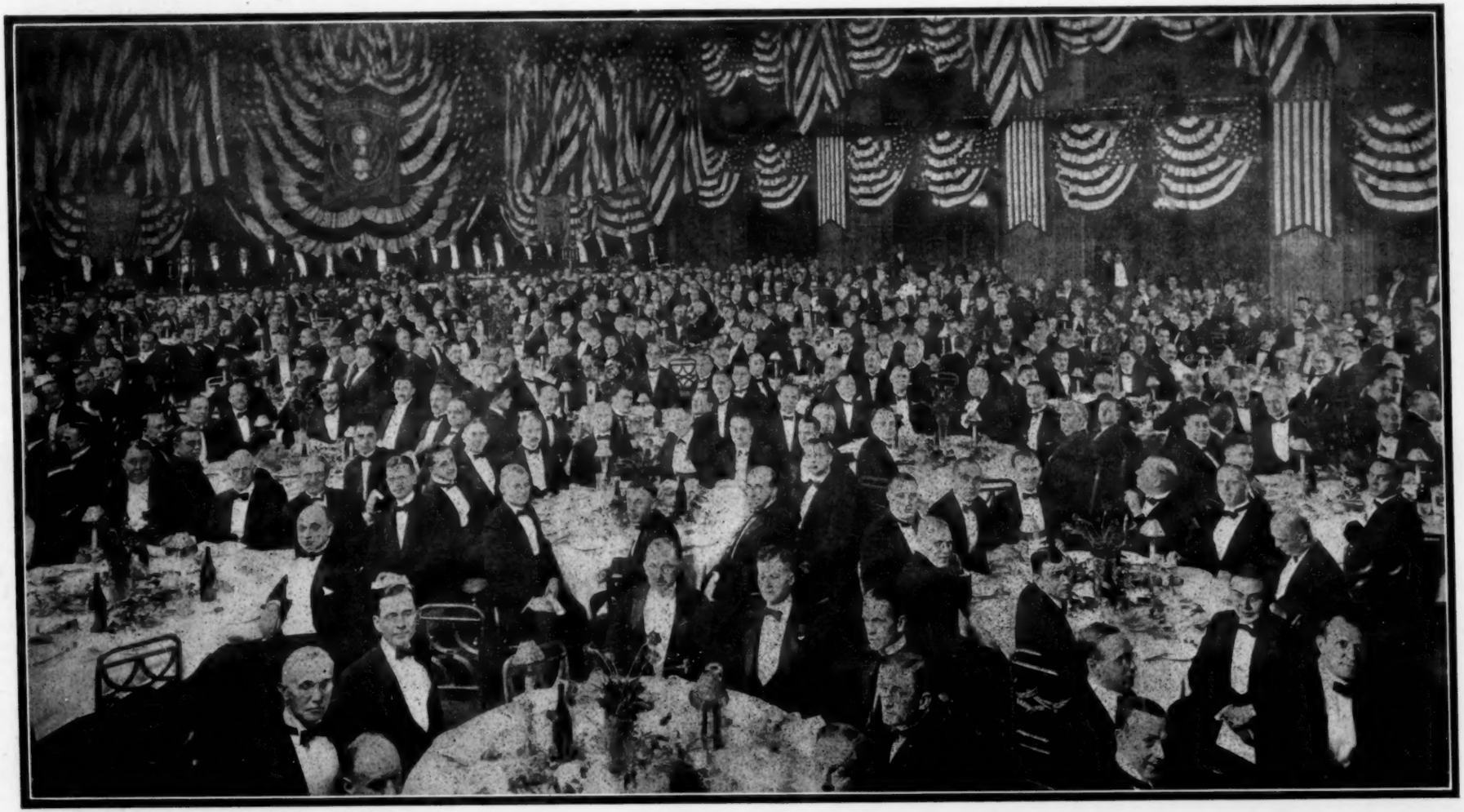
George B. Dryden
President, Dryden Rubber Co., Chicago
Newly Elected Director of the Rubber Association

Senator Harrison on America's Duty towards Europe

Senator Harrison spoke, in part, as follows:

"No sane American who has the welfare of this country at heart can for a moment fail to feel an

The Biggest Social Event in America's Rubber Industry



Photograph by Drucker & Baltes Co., New York

NEARLY 1,000 MEMBERS AND GUESTS AT THE 23RD ANNUAL BANQUET OF THE RUBBER ASSOCIATION OF AMERICA, IN THE GRAND BALLROOM OF THE WALDORF-ASTORIA HOTEL, NEW YORK CITY, JANUARY 8, 1923

interest in the problems of other peoples. Our international trade, reaching into every part of the globe, is but the nerve of a complex and sensitive world system. The economic problems of all peoples are reflected upon the business of America in proportion to the magnitude of the problems.

"We may differ as to the extent our interests in the problems of other peoples may be manifested and the wisdom of certain policies that might be applied; but all must agree that our position in world affairs is too dominant and our stability too dependent for us to feel that we can withhold from any peoples our counsel and advice when sought and our cooperation when necessary. For years our statesmen have given of their time and talents and our taxpayers of their money in bringing us into closer relationship with all countries and in building up and maintaining a dominant position in world trade. The wisdom of that policy is reflected in a balance of trade the envy of all other countries and the pride of America.

"While conditions today in Europe are most delicate and fraught with grave possibilities, I cannot believe that war will result between any of the countries from the seeming disruptions that have taken place within the last fortnight.

"No country can prosecute a successful war in this day unless it has the sympathy at least of a part of the civilized world. France may exact the compliance of every term of the Versailles Treaty and move her troops into the Ruhr Valley, if she so will, but in doing so that great and patriotic people may suffer the cruel fate of Shylock and lose more than even the pound of flesh in the method of collection."

DINNER COMMITTEE: Horace DeLisser, F. R. Henderson, W. O. Rutherford.

RECEPTION COMMITTEE: G. A. Waddle (*Chairman*), Goodyear Tire & Rubber Company; F. H. Babcock, J. H. Lane & Company; W. H. Bell, Kelly-Springfield Tire Company; W. E. Bruyn, L. Littlejohn & Company; C. C. Case, United States Rubber Company; W. W. Duncan, Hood Rubber Company; L. G. Fairbank, Firestone Tire & Rubber Company; T. M. Gardner, Brighton Mills; A. A. Garthwaite, Lee Tire & Rubber Company; N. L. Greene, Clifton Mfg. Company; G. E. Hall, Boston Woven Hose & Rubber Company; C. W. Harrison, Bloomingdale Rubber Company; H. H. Henderson, F. R. Henderson & Company; F. M. Hoblitt, Ajax Rubber Company, Inc.; G. A. Ludington, Fisk Rubber Company; Warren MacPherson, Cambridge Rubber Company; H. C. Miller, The B. F. Goodrich Company; F. C. Millhoff, The Miller Rubber Company; L. J. Plumb, U. S. Rubber Reclaiming Company; G. S. Shugart, United States Tire Company; W. H. Stiles, W. H. Stiles & Company; T. F. Walsh, Swinehart Tire & Rubber Company; W. E. Wilson, Akron Rubber Mold & Machine Company; W. W. Wuchter, Nebraska Tire & Rubber Company.

THE MEMBERS AND GUESTS AT THE BANQUET

A

M. R. Abbott, C. A. Adams, H. J. Adams, A. N. Alexander, A. P. Allen, E. E. Allen, F. R. Allen, W. P. Allen, E. A. Anderson, J. D. Anderson, W. D. Anderson, G. F. Armstrong, H. G. Armstrong, F. L. Arnold, W. H. Arnold, H. Arensohn, W. C. Arthur, H. A. Astlett, S. Y. Austin.

THE SPEAKERS, OFFICERS OF THE ASSOCIATION, AND GUESTS AT THE PRESIDENT'S TABLE

Bourn, A. O., Bourn Rubber Co.;
Broughton, J. S, United & Globe Rubber Co.;
Bruyn, W. E., Treasurer, L. Littlejohn & Co., Inc.;
Dryden, G. B., President, Dryden Rubber Co.;
Lowman, J. S., Philadelphia Rubber Works Co.;
Eden, W. A., President, Rubber Association of Canada;
Hon. Patrick Harrison, U. S. Senator from Mississippi;
Hotchkiss, H. S., President, General Rubber Co.
O'Neil, William, General Tire & Rubber Co.;
Henderson, F. R., of F. R. Henderson & Co., Inc.;
Lewis, S. G., Pennsylvania Rubber Co.;
Stadelman, G. M., Goodyear Tire & Rubber Co.;
Hon. George H. Moses, U. S. Senator from New Hampshire;
DeLisser, Horace, Pres., Rubber Association of America;
Dunn, H. T., President, Fisk Rubber Co.;
Hon. Charles A. Towne, Toastmaster;
Hon. Carroll L. Beedy, U. S. Representative from Maine;
Rutherford, W. O., Vice President, B. F. Goodrich Co.;
Chapin, R. D., Vice President National Automobile Chamber of Commerce;
Bachman, B. B., Pres. Society of Automotive Engineers;
Broadwell, E. H., President, Motor and Accessory Manufacturers Association;
Seiberling, F. A., President, Seiberling Rubber Co.;
Brown, A. H., Meyer & Brown, Inc.;
Hood, F. C., Hood Rubber Co.;
Hodgman, G. B., President, Hodgman Rubber Co.;
Alexander, M. W., Managing Director, National Industrial Conference Board;
Clark, M. E., Counsel, Rubber Association of America

B

F. H. Babcock, H. P. Babcock, E. S. Babcox, F. L. Bacon, Robert Badenhop, G. W. Bailey, C. W. Baird, R. B. Baird, R. L. Baird, W. T. Baird, W. T. Baird, Jr., W. A. Baker, W. H. Balch, E. W. Balding, R. S. Baldwin, S. D. Baldwin, R. H. Ballou, F. H. Banbury, L. Barber, H. H. Bardell, A. C. Barlow, H. H. Barnard, A. Barrows, Otto Basten, F. B. Batchelder D. M. Bates, G. J. Bates, H. A. Bauman, Morris Baumann, H. L. Baxter, Richard Baybutt, F. V. Bechtel, T. L. Begnan, W. C. Behoteguy, Victor Behrend, W. H. Bell, J. R. Benedict, E. J. Bernhard, A. Bers, Paul Bertuch, E. W. Be Saw, Howard Bessell, G. H. Beymer, B. Bigelow, N. W. Biggirt, John Birnie, George Biscaye, E. A. Bishop, V. Blandin, E. M. Bogardus, A. Blome, F. A. Bonstedt, A. D. Boote, C. H. Booth, C. O. Boughman, A. O. Bourn, Jr., S. W. Bourn, P. V. L. Bouton, N. E. Bowman, Fred Braender, Philip Braender, J. J. Braham, Jr., J. A. Brander, L. W. Brander, S. Brelich, J. Bremmer, N. J. Brewer, W. G. Brewer, A. Brill, Garre Brodhead, Jr., Sam Broers, W. R. Brook, E. H. Brooks, C. F. Broughton, C. A. Brown, C. D. Brown, J. Brown, J. R. Brown, L. A. Brown, L. D. Brown, F. S. Bruyn, Hugh Bullock, G. J. Burger, E. S. Burke, P. L. Burne, R. S. Burnham, D. R. Burr, A. I. Butler, S. G. Byam, F. L. Byrne.

C

E. R. Callaway, G. B. Campion, M. L. Cannon, M. J. Carballeira, S. G. Carkhuff, W. S. Carleton, Raymond Carter, J. F. Cast, E. L. Cathcart, F. C. Chace, W. H. Chadwick, G. C. Chalmers, K. S. Chamberlain, C. C. Chestney, J. S. Clapp, C. B. Clark, C. S. Clark, F. B. Clark, Sheffield Clark, C. F. Clarkson, J. H. Cobb, W. H. Cobb, James Cockran, J. H. Coffey, Jr., P. G. Coie, C. R. Collins, G. Collins, R. J. Conant, A. Conlin, J. H. Connors, C. S. Cook, O. R. Cook, A. B. Cooley, I. J. Cooper, G. T. Cottle, E. J. Coughlin, J. H. Courtenay, R. R. Cowen, R. B. Crane, D. F. Cranor, J. M. Cranz, B. B. Craver, E. O. Cummings, H. H. Cummings, W. L. Cummings, O. A. Cunningham, C. M. Curry, E. G. Curry, W. F. Cutler.

D

H. A. Daggett, D. J. Daly, F. S. Dane, F. W. Daniel, B. Darrow, H. W. Darrow, G. W. Daum, J. A. Davidson, H. Davila, R. L. De Bramvere, E. C. DeLanie, H. S. DeLanie, H. B. Delapierre, R. L. DeLisser, B. De Mattia, T. A. Desmond, C. F. Devine, J. T. Devlin, G. O. Dexter, J. P. Dice, F. M. Dickerson, W. H. Dickerson, J. H. Diehl, S. H. Dodd, S. L. Dodd, M. J. Dolan, W. S. Doty, W. M. Doucette, R. E. Drake, Judson Drayton, W. A. Drisler, A. B. Dröeger, H. M. Drucker, E. L. Duffee, L. W. Dumont, J. F. Dunbar, J. F. Dunbar, Jr., Wilbur Dunbar, W. W. Duncan, W. Y. Duncan, W. B. Dunlap, Victor Durand, T. A. Dwyer.

E

W. P. Earle, W. T. Easley, D. Eastman, Editor, THE RUBBER AGE, Frederick Edel, A. C. Ehman, B. W. Elgin, Paul Elbogen, J. B. Elliman, A. R. Elmendorf, F. K. Espenhain.

F

F. Fair, L. G. Fairbank, E. Farr, H. P. Farrington, David Feinburg, D. H. Fenton, F. C. Fenton, H. E. Field, E. S. Finch, V. W. Fink, H. S. Firestone, Jr., H. G. Fisk, E. H. Fitch, F. B. Fitzgerald, H. A. Flint, J. G. Fogg, F. C. Foley, Lee Folger, Thomas Follen, F. F. Fox, M. S. Fox, A. A. Frank, A. L. Freelander, H. W. French, E. M. Frick, E. L. Fries, F. F. Frothingham, C. L. Fulkert, H. P. Fuller, R. L. Fuller,

G

L. D. Gardner, Publisher, THE RUBBER AGE, T. M. Gardner, C. D. Garretson, A. A. Garthwaite, G. S. George, C. H. Gerhold, R. M. Gibson, F. H. Gifling, H. R. Gill, H. A. Githens, G. B. Glaenzer, R. E. Glass, E. J. Gleason, A. A. Glidden, H. S. Godwin, R. H. Goebel, Herman Goldman, Joseph Goodwin, Leonard Goodwin, J. Q. Goudie, G. C. Gould, R. H. Granzen, F. H. Greene, N. L. Greene, H. R. Greenlee, A. B. Greenough, R. T. Griffiths, O. Grosslicht, Joseph Groth, George Grow, J. N. Gunn, A. L. Gustin, A. Guttman.

H

J. C. Haartz, T. E.Habich, H. J. Haigh, D. D. Haldane, J. E. Hale, B. T. Hall, E. H. Hall, D. P. Halsey, I. M. Hamilburg, Raymond Hamilton, H. C. Hanson, R. S. Hardy, A. Hargraves, W. F. Harrah, J. T. Harrington, S. W. Harris, C. W. Harrison, Dr. Harrison, C. E. Hart, E. H. Hart, Kennedy Hassenzahl, H. Hauff, G. S. Hayes, H. T. Helm, M. L. Heminway, B. W. Henderson, H. H. Henderson, H. M. Henderson, J. Henry, W. H. Hermann, J. W. Herron, E. D. Hewins, L. O. Heyworth, R. E. Hightower, W. H. Hightower, C. G. Hill, Paul Himmelright, Carl Hitchcock, L. H. Hoag. J. W. Hobbs. F. M. Hoblitt, A. P. Hodgman, G. B. Hodgman, Jr., S. T. Hodgman, S. T. Hodgman, Jr., John Hoerger, H. W. Holcombe, C. F. Holden, J. C. Holmes, E. G. Holt, M. G. Hopkins, Ernest Hopkinson, C. C. Hopper, Fred Horn, H. Hough, C. J. Howell, W. L. Hughson, Chas. Humphreys, W. T. Hunter, Jr.

I

George Israel.

J

L. R. Jackson, S. E. Jackson, W. J. Jackson, C. J. Jahant, William Jameson, C. S. Jamison, R. R. Jennings, E. A. Johnson, J. T. Johnson, Ollie Johnson, R. H. Johnson, R. T. Johnson, S. H. Johnson, W. A. Johnson, W. L. Johnssen, Clifford Johnston, Douglas Johnston, F. A. Johnston, J. T. Johnstone, S. S. Jonas, A. B. Jones, E. G. Jones.

K

S. F. Kahnheimer, L. M. Kaplan, C. B. Kaufman, C. Kavenagh, William Kavenagh, John Kearns, L. V. Keeler, C. F. U. Kelly, J. H. Kelly, S. E. Kelly, T. J. Kelly, W. J. Kelly, J. A. Kendall, Clarence Kenyon, Jr., H. L. Kenyon, H. M. Kerr, R. R. Kershaw, T. F. Kimball, B. J. King, D. H. Kinloch, M. J. Kirby, W. J. Kirkpatrick, A. F. Kitchel, Robert Knoblock, C. W. Knoepfel, E. S. Kochersperger, R. S. Koehler, Jr., E. H. Koken, H. P. Kraft, D. S. Kubie, J. W. Kuhne, M. Kutz.

L

M. C. Lachenbruch, F. T. Lahey, E. P. Lambert, Sloan Lamont, Jr., R. W. Lampman, R. A. Landers, Irving Laurie, G. L. Lavery, F. M. Leahy, C. W. Leavitt, O. A. Lederer, A. A. Leiser, Jr., B. R. Leisure, R. S. Leonard, L. N. LePan, L. H. Ley, P. B. L'Hommedieu, E. A. Lightner, H. F. Lincoln, H. A. Lindsay, T. S. Lindsey, A. L. Lingley, P. W. Litchfield, R. M. Littlejohn, J. L. Livermore, C. J. Lockholm, R. M. Loewenthal, J. W. Long, I. J. Louis, Joseph Louis, F. W. Lovatt, Henry Lower, H. G. Lubke, W. R. Lucas, G. A. Ludington, W. M. Lyall.

M

J. A. MacMillan,E.F. McCartney, W. J. McCauley, H. L. McClaren, L. L. McClintock, Mr. McConnell, R. B. McCreary, G. C. McCullough, C. P. McDonald, Arthur McDowell, F. R. McKenna, H. A. McKusick, J. F. McLean, I. Roy McLennan, Editor, TIRE TRADE JOURNAL, Wm. McMahan, John McMillan, C. F. McPhillips.

N

H. H. Maas, J. W. Macomb, Mr. Magee, J. C. Mahlan, A. A. Manchester, Jr., A. N. Mann, Miah Marcus, B. E. Markan, W. H. Marland, M. A. Marquette, H. L. Marsh, T. C. Marshall, Grinnell Martin, H. T. Martin, J. S. Marvin, W. B. Marvin, H. T. Mason, J. H. Mason, Luis Mata, Thomas Matchett, F. A. Mathey, Luis Mayan, E. F. Mayne, Harry Meixell, Wm. F. Metzger, Adolph Meyer, E. T. Meyer, Otto Meyer, Victor Meyer, A. C. Meyers, Paul Meyerfeld, Thomas Midgley, S. A. Miles, Murray Millenthal, C. E. Miller, E. F. Miller, E. L. Miller, H. C. Miller, I. L. Miller, J. A. Miller, W. Miller, W. B. Miller, F. C. Millhoff, H. C. Mills, Gordon Milne, W. M. Milner, W. H. Miner, W. A. Minott, K. Miyazaki, D. A. Mock, David Moffatt, C. L. Moody, A. P. Moore, J. A. Moore, J. T. Moore, E. L. Morgan, W. R. Morris, C. A. Morse, W. M. Morse, H. D. Mortland, Henry Moses, J. V. Mowe, H. Muehlstein, C. L. Muench, C. W. Muler, C. W. Murdock, G. F. Murphy, Wm. C. Murphy, P. A. Murphy, C. E. Murray, C. E. Murray, Jr., N. J. Murray, E. V. Myers.

O

G. H. Nason,G.M. Naylor, F. G. Neal, A. B. Newhall, Arthur Newman, E. D. Newman, S. C. Newman, Stanley Newman, F. B. Nickel, C. W. Niles, N. S. Noble, J. J. Northway, Mr. Norton.

O

C. H. Oakley, L. M. Oakley, X. W. Obalski, P. H. Obler, J. E. Odell, L. G. Odell, J. W. Oliver, N. E. Oliver, G. W. Osborn, Henry Otte, W. B. Owen.

P

R. H. Paddock, Hutchison Page, J. F. Palmer, P. L. Palmerton, E. A. Pam, A. L. Pardee, W. H. Parkin, Stephen Peabody, F. H. Peaty, R. A. Peavey, Geo. E. Pell, A. J. Pennington, Charles Penrose, W. M. Pepper, Henry Perlish, G. E. Perry, C. B. Peschman, E. V. Peters, G. L. Peters, F. B. Peterson, E. H. Pettingell, C. L. Petze, Jacob Pfeiffer, W. F. Pfeiffer, H. E. Phelps, A. D. Phillips, Peter P. Pinto, Business Manager, TIRE TRADE JOURNAL, Louis J. Plumb, R. H. Poeplitz, H. V. Pohle, P. M. Pontius, S. S. Poor, F. A. Pope, D. L. Powers, J. W. Price, W. C. Price, W. H. Price, Jr., H. K. Prichitt, L. F. Purtil, Charles Pusinelli, Fred Pusinelli.

Q

E. H. Quinlin, J. M. Quinn.

R

H. A. Reed, W. B. Reed Alfred Reeves, G. C. Reeves, J. V. Reilly, W. J. Rennick, H. H. Replogle, E. C. Reuter, F. I. Reynolds, W. A. Reynolds, D. F. Rice, R. L. Rice, E. B. Richardson, J. H. Richardson, L. C. Richtmyre, G. D. Rigaudiere, E. L. Rimbault, H. H. Ripley, Jr., L. I. Ris, M. Roberts, P. E. Roberts, F. A. Robertson, H. K. Robertson, Thomas Robins, B. M. Robinson. J. T. Robinson, F. W. Roche, L. C. Rockhill, J. S. Rodenbough, R. Ropes, J. Rosenburg, Charles Ross, F. J. Ross, M. Rothschild, J. E. Rousmaniere, J. W. Rowland, H. S. Royce, F. S. Rutter, L. Ryan, W. L. Rybolt.

S

E. Salisbury, E. M. Salzberg, C. W. Sanderson, A. M. Sawyer, J. F. Schaefer, J. C. Schank, G. L. Scheinler, A. L. Scheuer, A. Schulman, Ernest Schulthess, A. C. Schwartz, Morton Schwartz, Joseph Schweizer, S. S. Scudder, F. A. Seaman, John Searle, C. W. Sears, S. H. Sears, C. B. Seger, A. H. Shapiro, F. W. Sharts, J. T. Shaw, J. J. Shea, C. L. Sheldon, N. C. Shepard, T. R. Shepard, G. E. Shipway, G. S. Shugart, Jack Sider, E. W. Simms, W. O. Singer, J. A. Singmaster, G. W. Skirm, H. W. Slauson, C. C. Slusser, F. G. Smith, F. H. Smith, G. A. Smith, J. A. Smith, J. A. Smith, K. D. Smith, N. L. Smith, P. W. Smith, T. E. Smith, W. T. Smith, D. D. Smithyman, J. S. Sorensen, W. H. Sorn, C. H. Sorrick, L. N. Southmayd, C. E. Speaks, Leopold Spitz, F. V. Springer, C. W. Stapleton, F. K. Starbird, J. H. Stedman, Wm. Stephens. Fred Stern, C. C. Stevens, G. W. Stevens, R. G. Stewart, L. D. Stiles, W. H. Stiles, C. A. Stillman, J. G. Stoller, R. M. Stuart, P. J. Stueck, F. W. Suhr, C. P. S. Sutherland, J. G. Swain, Charles Swan, H. H Swan, H. H. Swan, J. A. Swett, M. Switzer.

T

J. A. Talbot, A. V. W. Tallman, A. F. Tallmer, R. Tamaki, E. J. Tarof, F. W. Teele, C. H. Temple, John Tenney, R. A. Terhune, S. P. Thacker, L. H. Thomas, W. G. Thomas, E. W. Thompson, H. F. Tideman, J. T. Tierney, M. H. Tisne, R. L. Tonner, Graham Townsend, S. D. Townsend, D. D. Tripp, Frederick Trismen, A. A. Troescher, H. M. Turner, M. A. Turner, J. B. Tuttle, J. C. Tuttle, O. S. Tweedy, E. K. Twombly, H. B. Twyford.

U

George Utter.

V

J. M. Van Alst, F. C. Van Cleef, Felix Van Cleef, Harold Van der Linde, J. de C. Van Etten, C. M. Van Kleeck, B. E. Van Riper, L. M. Van Riper,J. W. Valentine, L. T. Vance, C. A. Vane, W. M. Vermilye, Frank Vesper, H. T. Viall, Jr., Julius Volckhausen.

W

G. A. Waddle, C. E. Wagner, G. H. Walker, Herbert Walmsley, T. F. Walsh, A. E. Warner, L. A. Watts, O. L. Weaver, Herman Weber, E. G. Webber, E. C. Webster, P. S. Weeks, H. Weida, W. W. Weitling, W. N. Welch, Philip Weld, I. B. Wells, J. A. Wells, J. C. Weston, C. R. Wetsel, A. L. Weyand, C. M. White, Jr., D. F. White, L. M. White, W. A. White, W. T. White, W. A. Whitenack, W. W. Whiting, E. E. Whitman, R. L. Whitman, Matthew Whittaker, W. H. Willennar, C. S. Williams, Fred Williams, F. D. Williams, O. H. Williams, R. V. Williams, C. H. Williamson, C. T. Wilson, F. B. Wilson, H. L. Wilson, W. E. Wilson, P. T. Wise, W. D. Wissell, S. J. Witt, K. W. Wolcott, C. E. Wood, J. R. Wood, Roy Wood, H. J. Woodard, S. P. Woodard, R. B. Woodbury, Van Lear Woodward, B. F. Worcester, H. D. Worthington, Ira Worthington, W. W. Wuchter, W. R. Wynans.

Y

S. Yamanaka, D. D. F. Yard, John Young, P. E. Young.

Z

F. Zech, Dr. Zimmerli.

Oldest Rubber Factory in the World

JAMES LYNE HANCOCK, Ltd., of 266 Goswell Road, London, E. C. 1, England states in its advertisement that it is "the oldest rubber factory in the world," established in 1820. It manufactures a complete line of surgical and mechanical rubber goods. Gold medals were awarded this concern as follows: London 1851, Sydney 1888, London 1895, Adelaide 1887.

November Rubber Sale in Amsterdam

ONLY 49,885 kilograms of rubber was offered at the public sale in Amsterdam on November 22. The entire lot was sold, competition being very keen, and the prices averaging 10 per cent above valuation. The highest price paid was florins 0.65¼ ($0.26) per half-kilo for Hevea diamond smoked sheets.

Malaya Rubber Exports in November 1922

AN official cablegram from Singapore reports that the exports of rubber from British Malaya in the month of November amounted to 21,642 tons (48,477,400 lbs.) as against 27,466 tons in October and 17,941 tons in the corresponding month of last year. Transhipments amounted to 3,067 tons (6,870,600 lbs.) and foreign imports to 5,168 tons (11,575,400 lbs.).

Mining Hose Trade of British South Africa

THE South African Rubber Manufacturing Co., at Howick Falls, Natal, is a serious factor in the mining-hose trade, especially in the half-inch and one-inch sizes. Their success is based on price, the American hose product being from 12 to 25 per cent higher than the South African product. In appearance it is a promising article, but its quality has not yet been fully tested. American representatives' sales in this important line of rubber goods consumed by the gold mines are showing a marked decrease.

Increased Importation of Rubber in France

IMPORTS of rubber into France during the first eight months of 1922 totaled 19,909 metric tons, a gain of almost 80 per cent over those for the same period of last year, which totaled 11,144 metric tons. Of the total received up to the end of August of this year 9,166 metric tons were received from England, 4,090 tons from Brazil, 2,018 tons from the Malay States, and 1,555 tons from other countries. Shipments from the French colonies are also increasing. The French Kongo contributed 625 metric tons (as against 226 tons in 1921), Indo-China 206 metric tons and other colonies along the western coast of Africa 113 tons.

(By U. S. Assistant Trade Commissioner David S. Green, Paris)

Business Pendulum Swings Forward

Improvement 50 per cent in Manufacturing Industries during the Year 1922—This Advance Will Be Bettered in 1923—Manufactured Rubber Goods Up 40 per cent, Textiles 20 per cent, and Automobiles 50 per cent

PRODUCTION of manufactured commodities in 1922 was about 50 per cent greater than in 1921, according to figures compiled by the United States Department of Commerce from latest reports to the Bureau of the Census in connection with the survey of current business. The rubber industry was 40 per cent more active than in 1921; the automobile industry increased its output 50 per cent; the textile mills increased their business 20 per cent; building construction, 50 per cent; lumber 35 per cent; petroleum, 15 per cent; paper, 25 per cent; iron and steel industry, 60 to 70 per cent. Agricultural receipts were much higher. The only declines of importance were 7 per cent in bituminous coal and 47 per cent in anthracite, both due to the prolonged strikes last summer.

The review of the past year indicates that production this year will continue to increase and that 1923 will substantially add to the 50 per cent advance scored during 1922, as every branch of economic activity in this country is in a better position than during the early months of last year.

"At this time of the year it is customary for business to pause long enough," the Department states, "to take account of the progress made during the twelve months just elapsed, and from this standpoint to make some conjectures as to the coming months of the new year. It is with a feeling of satisfaction that most industries can view the progress of the past year in spite of the many difficulties which have been experienced. At the close of 1922 there are no serious obstacles in sight which should hinder further advances during the early part of the new year.

"The increase in production and the reduction in immigration improved the labor situation from a large surplus of labor at the end of 1921 to a point where shortages occur, while unemployment has almost been eliminated. Transportation conditions changed from a huge surplus of idle freight cars to a considerable shortage, while car loadings were 11 per cent greater than in 1921.

"Prices to the farmer increased about 17 per cent during the year, wholesale prices advanced 10 per cent and retail food prices declined 5 per cent. This condition gives the farmer a greater purchasing power and narrows the margin between wholesaler and retailer.

"The volume of trade was considerably heavier than in 1921. Sales of mail order houses increased 6 per cent and chain stores show a gain of 13 per cent. Debts and bank clearings also show about this same relation."

Latex—the New Face at the Door

Unlimited Commercial Possibilities in the Widening Uses of Liquid Rubber—Detailed Description of Recent American and British Patents for Obtaining Dry Rubber by Spraying Latex—United States Rubber Company Leading in Latex Developments

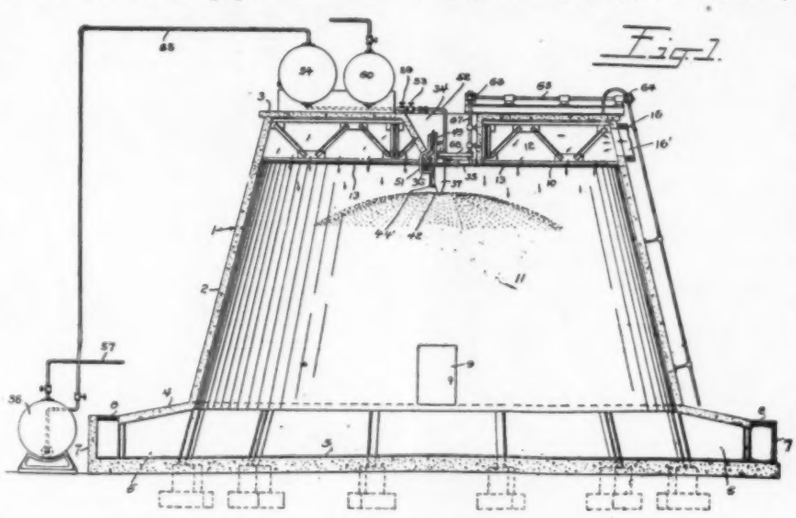
SEVERAL recent issues of THE RUBBER AGE contained news and technical articles relating to the use of liquid rubber known as latex, in place of the coagulated and dried rubber which is the raw product usually dealt in as a commodity. The discovery by Frederick Kaye, a British chemist and rubber technologist, that latex can be used to decided advantage in the manufacture of paper, and the recent latex patents granted to Ernest Hopkinson in England and to Charles E. Bradley and Joseph G. Coffin in the United States have emphasized the importance of developing this hitherto neglected branch of the industry.

It is the purpose of this article to summarize what has been done up to this time in the way of utilizing latex in England and this country, to indicate how far the paper mills have gone with their experiments and test runs of latex paper, and to describe the patents mentioned. Both in Great Britain and the United States these patents have been assigned to the General Rubber Company, the subsidiary of the United States Rubber Company which handles the purchases and sales of crude rubber.

Latex Being Exported by Thousands of Gallons

A news item in this publication recently stated that 16,600 gallons of rubber latex had left Singapore in a single shipment for the United States. This shipment was destined for the United States Rubber Company, and there have been a number of shipments of this size or larger to this country. Among the New York importers of crude rubber F. R. Henderson & Co., Inc., have generously assisted in the development of this new product by distributing more than 1,000 gallons without charge to the rubber, paper, and allied industries for experimental purposes. They are retaining consulting chemists to continue this development work in order to assist prospective consumers in the application of latex to its many possible uses.

At present offerings of 1000 gallons of latex monthly are being made for January-June deliveries, and all available supplies on hand in New York and London as well as in Singapore, Penang, and Colombo are being contracted for as rapidly as possible. It must be remembered that liquid as well as dry rubber comes under the operations of the export restriction plan in the Far East, and this of course has a tendency to retard shipments and hold back developments in the further use of latex. The fact, however, that all surplus latex which is not coagulated and dried at plantation factories is and can be easily disposed of to British and American dealers and manufacturers is concrete evidence that the day of the wider application of latex in the rubber industry and other industries is here. That this development will increase in scope and importance is not doubted by rubber chemists and technologists who have studied the matter and by certain factories within and without the rubber trade which have sensed the commercial possibilities of latex.



APPARATUS FOR SPRAYING AND DRYING RUBBER LATEX—VERTICAL SECTION

Latex for Impregnating Cord Fabric

Next to its use in paper making, which according to the inventor, Mr. Kaye, will open up a vast new market for rubber in liquid form, one of the most significant developments in the direct application of latex is its use for impregnating cord fabric in the manufacture of tire casings. While as yet this is being done in only a few tire factories as an experiment, the advantages of the process have become apparent to technical observers. At the annual meeting of the Rubber Shareholders' Association, Limited, in London on Nov. 7 last, D. F. L. Zorn, the chairman, in his report to the members, devoted a paragraph to the growing importance of latex in the rubber industry.

"We appear to be on the threshold," he said, "of what will prove to be a new industry, running on parallel lines with the old rubber industry, but independently consuming very large quantities of rubber which otherwise would not be used at all. I am, of course, alluding to the remarkable way in which rubber latex is being taken up for purposes of direct manufacture. Not only are we likely to see a big demand for latex in connection with the new Kaye process of paper making, but there are various other directions in which the chemist, the inventor and the manufacturer are now experimenting with a view to the commercial application of rubber latex ..... These new latex developments may easily account for thousands of tons of rubber."

In passing, it is interesting to record the fact that the *India-Rubber Journal* of London was the first regular publication to use cover paper containing one per cent of rubber latex and that the report of the proceedings of the Rubber Shareholders' Association, mentioned above, was printed on Bedford bond paper containing a percentage of latex. Certain advantages are apparent even to the untrained eye and hand, such as greater crispness and toughness, folding qualities, smoothness of finish, etc.

Rubber Paper Experiments in the United States

THE RUBBER AGE has made exhaustive inquiries from authoritative sources in an effort to learn just how far the paper mills of the United States have gone in their experiments with paper containing a percentage of rubber latex. So far as these authorities are aware, there is no paper mill in this country or abroad that is at present producing latex paper on a commercial scale. The mills have gone farther

in this direction in England than in this country, but supplies of rubber-contained paper are still scanty even there.

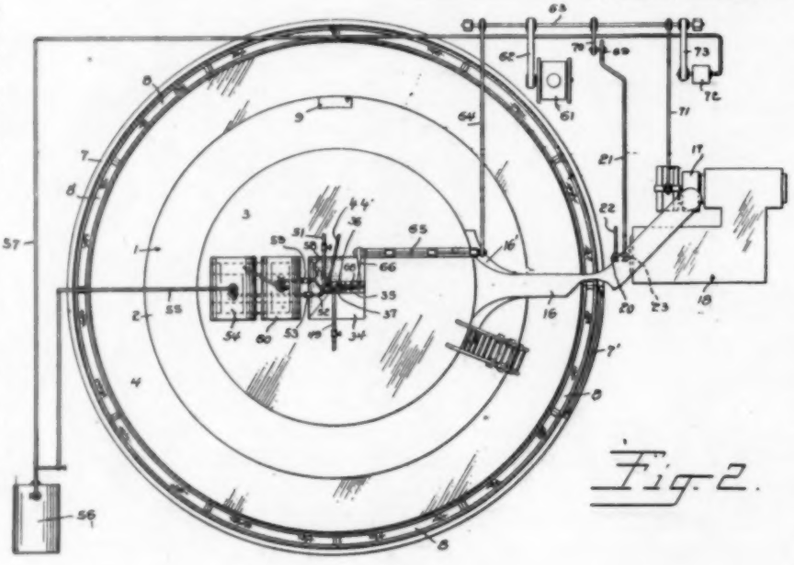
In the United States the following paper mills have received supplies of latex for experimental purposes, either from the Paper Division of the Department of Commerce or direct from the plantations or from British or American importers:

Bayless Manufacturing Co., Austin, Pa.; Hammermill Paper Co., Erie, Pa.; Strathmore Paper Co., Mittineague, Mass.; High Falls Pulp & Paper Co., Chateaugay, N. Y.; and the experimental paper mill of the U. S. Bureau of Standards, Washington, D. C. Of these the Strathmore company, which makes a high grade of writing paper and cover paper, reports that its "results with latex were not at all promising." No statement has yet come from the other mills.

Latex Paper Developments in England

At the meeting of Kaye's Rubber Latex Process, Ltd., (the parent latex paper company controlling the Kaye patents), in London on Dec. 7 last, one of the directors, James Fairbairn, made the following statement in reply to a complaint that although there was a considerable demand for rubber paper from large institutions and individual users, no supply was available:

"This company is today practically acting as a sort of clearing house. We receive large quantities of correspondence daily. We list all inquiries and send them to the proper wholesalers. The reason for the delay in marketing all the classes of paper is that the demand has so far exceeded the supply. We have had to resort to all sorts of expedients to meet the supply where it was urgently wanted. With regard to notepaper, we have registered a trademark 'Kalatex,' but it takes some time to get out the notepaper. One of the large paper-making firms is producing, however, a very attractive cabinet which will contain paper and envelopes and which will be circulated among the stationery trade within a week or two. It will have a taking illustration upon it and the whole thing will be very attractive. Blocks of writing paper will also be on the market as soon as possible—probably within a week or ten days. We have other methods of propaganda, including slips to rubber shareholders and circulars to rubber directors, and the response has been wonderful. It is in the notepaper that there has been the greatest delay, but that is being got over."



Apparatus for Spraying and Drying Rubber Latex—Plan View

Other Latex Experiments Under Way

Manufacturers in the garment proofing trade are experimenting with rubber latex in place of prepared rubber cement and are reported to be well pleased with the results so far. Careful tests show that the latex-treated cloth is superior in every way to the cement-treated kind, and this development promises to be an important one.

Experimental work with latex is constantly going on in practically every branch of the rubber industry in this country and abroad, and chemists and inventors are busily engaged on various problems involving the direct application of liquid instead of dry rubber. There are both physical and chemical reasons for this eagerness to apply latex direct to products of industry, but economics plays its part as well. "Why," asks the rubber technologist, "treat the latex on the plantation and again treat the dry rubber in the rubber goods factory, losing certain qualities by both processes, when it is possible to combine the pure latex with other materials, such as fabric or cork or leather, and obtain a superior product with no loss of physical or chemical properties?" Directness, simplicity, economy, and greater efficiency are at the basis of the increasing importance of latex as a factor in this industry.

A late development is the experimental work going on in paint-making. Some paint manufacturers have discovered advantages in adding latex to certain kinds of paints and varnishes, and this offers another wide field for the future. Latex in concrete and cement block making is still another possibility. And who knows—we may yet be writing in rubber ink as well as with a hard rubber pencil or pen? The waterproof quality in a rubber ink would suggest a number of practical uses for it.

Where Liquid Excels Dry Rubber

Experiments thus far have shown liquid rubber, or latex, to be of decided superiority under certain well-defined circumstances. For example, where rubber cement is employed as in the garment proofing trade it is necessary to keep the rubber dissolved in benzine or naphtha which is highly inflammable and explosive, making it a dangerous article to handle. The law requires a separate building and fireproof receptacles for the handling and storage of rubber cement and the materials employed. By the substitution of latex all of the dangers and hence all of the extra costs attendant upon the use of naphtha-rubber solutions would be avoided, and it is claimed that proofing with latex produces a superior and more serviceable waterproof garment.

In cord tire manufacture, also, it is found that latex actually impregnates every small cord in the fabric whereas the rubber cement or rubber solution now used merely coats the cords—the incorrect and unscientific practice, say the technical men. Other rubber goods requiring impregnation such as hose, packing, sheetings, etc., it is claimed, can be greatly improved by the substitution of latex for rubber solvents.

The Market Price of Latex

At the present time latex is quoted, spot, in London at 4s. 6d. per gallon and future deliveries are quoted a little higher, 4s. 9d. per gallon. On the present exchange basis of $4.60 to the pound sterling this would make latex cost in the American market about $1.25 per gallon. There are between 3½ and 4 pounds of rubber to the Imperial gallon (about 1¼ United States gallons), averaging 3⅓ pounds; therefore this would make the rubber content of latex cost about 37½ cents per pound, or 7 cents a pound higher than the raw dry rubber (first latex or ribbed smoked sheet) is selling for at present. There is no fair basis of comparison, however, for the reason that latex is not yet on the market in commercial quantities nor have facilities been provided on many plantations or trading centers for the preparation and shipment of liquid rubber on an extensive scale. When this time arrives no doubt the market price of latex will compare favorably with that of the commodity in dried form, but even should it remain somewhat higher there would be obvious advantages in using the liquid latex to offset the difference in cost.

On this point the manager of the Netherlands Government Rubber Service at the Hague recently expressed himself, saying that the transporting and marketing of rubber in liquid form was a matter of the greatest importance to the rubber industry. He said:

"Although the transporting of latex, which contains about one-third per cent rubber, would appear unprofitable, considering the two-thirds liquid and resinous remainder, the fact is that by the application of various pulverizing and diffusing processes a rubber is obtained from this juice which shows peculiar qualities and offers such advantages as would justify a higher transport cost. The exports of latex from Sumatra to America are steadily increasing, amounting to 400 long tons (896,000 pounds) in the first eight months of 1922. Much larger quantities are expected to be exported in 1923. The Union of East Sumatra Rubber Estates is preparing for larger shipments and other Far Eastern estates are looking to the sale of latex as an important additional source of profit."

A representative of the United States Rubber Company, when interviewed on the subject of his company's activities in the practical use and development of latex, said:

"By far the greater portion of rubber used at the present time is obtained from the latex of the Hevea Brasiliensis, this being the tree from which most of the rubber gathered on the Amazon and its tributaries is obtained, and is also the tree which is most exclusively cultivated in Ceylon, Federated Malay States, Straits Settlements, Sumatra and other parts of the East. Until comparatively recently all the rubber from this latex was coagulated.

"In Brazil the method consists in collecting the latex from the trees and immediately proceeding with the coagulation of the same which is effected by dipping a paddle in the latex, and then holding the paddle with the adhering layer of latex over the smoke of a fire made of urucuri nuts which give off fumes having astringent properties, thereby coagulating the latex. The paddle is repeatedly and alternately dipped and held over the fire so that a mass of coagulated rubber is built up on it in layer formation.

"On the plantations in the Far East the process of coagulation consists in collecting the latex and immediately proceeding to the coagulation process by adding acetic acid or some similar chemical to the latex and stirring the same until a coagulum is formed, which consists of a spongy mass separated out of the latex and having generally the characteristics of curds separated from milk. Another process is to permit the latex to stand in a warm atmosphere which brings about what is called natural coagulation. After the coagulum is formed, whether by the first or second process, it is taken out of the residual fluid and passed through rolls to squeeze out the contained fluid, and is then dried, when it is ready for shipment in the form of smoked sheet, crepe, slab rubber, etc., to the factories manufacturing rubber goods.

"In these processes just recited—in the case of the method employing smoke used in South America and in the case of the acetic acid coagulation—there are contained in the product finally obtained certain chemical constituents (smoke products, acetic acid, etc.) which are undesirable and, to some extent, injurious. Moreover, some of the contents which are lost in the present methods of manipulation are of importance in the subsequent manipulation and vulcanization of the rubber obtained.

Hopkinson Process Produces Superior Rubber

"With the hope of finding a process which would produce a rubber of improved character and without the disadvantages both in the rubber itself and in the processes of obtaining it, Ernest Hopkinson, vice president of the United States Rubber Company, undertook the study of latex with the result that a new process is now available which produces a rubber far superior in its characteristics to any produced by the old methods. In studying latex it was found that not only could the latex be used as such in the production of a new form of rubber but innumerable other uses were found for it. These new processes indicate the increasing use of latex as such and it therefore has also become a problem to develop new methods of handling the latex to the point where it is to be used.

"In order to prevent coagulation while the latex is being stored and transported to the point of use, it became essential to find a preservative which would prove satisfactory in all respects. A great many chemicals were tried out but ammonia is the one which to date has given the best satisfaction.

Shipping Latex like Oil

"It was over five years ago that the United States Rubber Company first began to get most encouraging results from its intensive study of latex. From their plantations at Sumatra quantities as small as a pint were first preserved and shipped to the United States. Later on as confidence was gained in the possibiilty of transporting the latex, it was shipped in tins, later in drums, and now for some time it has been shipped successfully to the United States in steamer tanks.

"It can be readily imagined that handling the rubber liquid in these quantities has meant changes in the operation on an estate. Tank wagons are now in every day use. Today the latex is trasported by tank cars which are filled at the plantations, shipped to the steamer's port of call, there stored and pumped from the storage tank, lighters or direct from the tank car to the steamer's tank. On arrival at New York the latex is pumped into tank cars alongside the steamer and the tank cars sent to the factory. This is revolutionary in the method of transporting crude rubber and only those familiar with the handling of latex can begin to imagine the difficulties which had to be overcome in perfecting these methods of transport.

"While a great many uses have been found for rubber in its liquid form which had not been developed prior to the study undertaken by the company, the fact that many applications for patent are still pending on the new uses leads us to describe only two of the most important products and processes developed.

The Revolutionizing Hopkinson Spray

"The new process which has been developed to produce a superior rubber is known as the Hopkinson Spray Process. The method broadly consists in flowing the latex onto a rapidly moving surface. In particular, a revolving disc rotating at a high rate of speed is installed at the top center of a heat insulated chamber about thirty feet high and of the same diameter. The latex is led to the center of this disc and is thrown off, highly atomized, in the form of an umbrella.

"Heated air intermingles with the small particles, and dries them instantly without raising the temperature to a point which would be detrimental to the rubber. The small particles fall like snowflakes onto a conveying apparatus which delivers the rubber in a spongy layer outside the chamber.

"The heated air is produced by a method which utilizes all of the heat of an oil burning furnace. The products of perfect combustion are diluted with a large amount of fresh air and blown by a ventilating fan to the top of the unit. The air escapes at the bottom carrying with it the moisture from the latex. The process is continuous in operation.

"The latex as received in tank cars from the ship is stored in tanks at the factory and from these it is conveyed to the top of the unit where it is led to the spray rotor which atomizes it; the fineness of the atomization being controlled by the speed of the rotation of the electrically driven disc, and the degree of moisture being controlled by the amount and temperature of the incoming air.

"The apparatus has been perfected to such an extent that the entire operation of the unit, with the exception of handling the finished product, can be taken care of by one man, and practically any desired quality of rubber produced.

"One of the chief differences in the character of sprayed crude rubber when compared with ordinary crude rubber appears upon vulcanization. When the material is milled with sulphur a substantial increase in tensile strength and resistance to abrasion is obtained.

"In addition to the production of crude rubber by this method it has been found that compounding and vulcanizing ingredients may with great advantage be introduced into the rubber by spraying them in the same chamber either on the disc which is being used to spray the rubber or by spraying the compounding ingredients separately. In this way the ingredients are combined more easily and in a more homo-

geneous mass than heretofore secured with crude rubber without the destructive effect of mixing and grinding the rubber and compounding ingredients between hot rol's.

"Several of these plants are now in operation or in the course of construction by the company both in the United States and the Far East. Considering the superior quality and absolute uniformity of the rubber produced it can readily be seen that it may only be a short time before the entire crude rubber industry is revolutionized.

Latex-Treated Fabrics

"In almost all so-called rubber articles the strengthening or strain-resisting element consists of fibrous material, chiefly cotton, either in the form of cords or threads, or in the form of knitted or woven fabric. In the ordinary process of preparing these threads or fabrics for use in a rubber article to be subjected to the vulcanizing operation, the threads, cords or woven fabrics are subjected to a process by which rubber is applied to them. In the case of a heavy cord, it has been the practice to feed a core of rubber into the center of the strands or cable in the twisting operation of forming a larger cord. In the case of smaller strands or yarns, which are used in what are called 'cord' tires, the threads are held in parallel relationship by weak weft threads, and usually rubberized by being immersed in a rubber solution made by dissolving rubber in benzine. The same process is also used in rubberizing square woven fabric, which is used in tires, boots and shoes, and vulcanized rubber goods generally. After this solutionizing process the fabric is subjected to further rubberizing processes, such as frictioning, in which the solutioned fabric is passed through rolls rotating at different speeds, and warm rubber dough is 'frictioned' or rubbed onto the surface of the fabric.

"Another process is what is called 'skim-coating,' in which

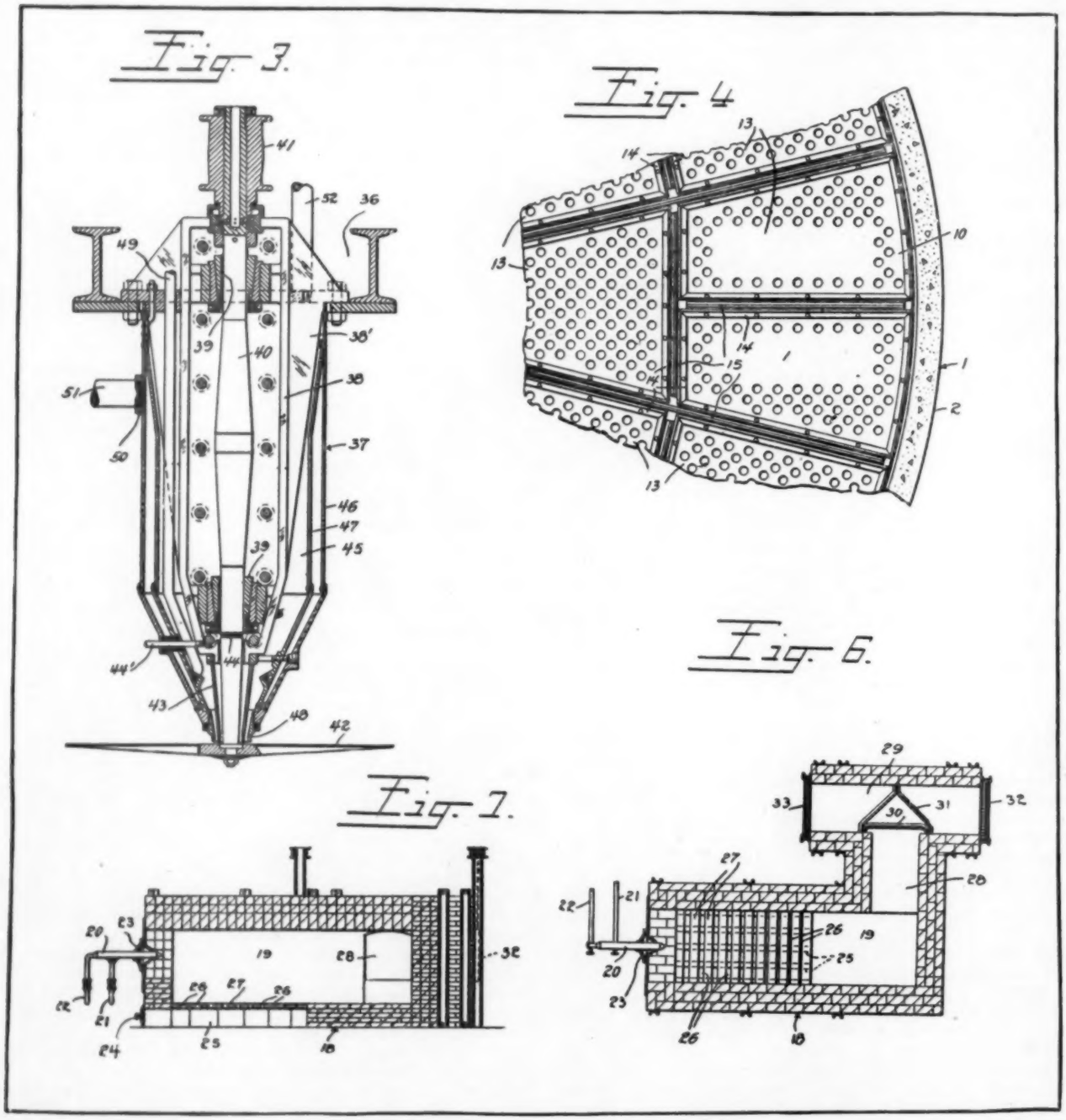


FIG. 3—VERTICAL SECTION OF SPRAYING ELEMENT. FIG. 4—DETAIL OF PERFORATED PLATES FOR DISTRIBUTING DRYING MEDIUM. FIG. 6—HORIZONTAL SECTION OF FURNACE. FIG. 7—VERTICAL LONGITUDINAL SECTION THROUGH FURNACE

a sheet of rubber is applied to the surface of the fabric by the fabric being passed through rolls running at even speed, one of the rolls carrying a thin sheet of rubber, which rubber adheres to the fabric passing through, and is pressed into contact by the rolls. Still another process of rubberizing consists in spreading a mass of rubber made very soft and plastic by a suitable solvent, this plastic mass of rubber being spread over the fabric by a stationary knife or spreading blade as the fabric passes underneath it.

"Sometimes all of these processes are used, while in other cases only one or more of the processes referred to are used. The fabric thus rubberized is then cut to suitable size and shape, and associated with crude rubber and built into the form of the article desired, and then subjected to the vulcanizing operation.

"The company found that if a thread or yarn is immersed in rubber latex, the rubber penetrates to the very center of the strand. In fact, a microscopic examination of individual cotton fibres so treated shows that the rubber is present in the hollow tubular structure of many of the individual cotton fibres.

"Threads or yarns so treated with rubber latex, whether the threads or yarns are individual or are comprised in a knitted or woven fabric, have very great advantages over threads or yarns or woven fabrics treated by the processes heretofore in use, when associated with rubber in the vulcanizing operation. The whole object of rubberizing the fabric prior to its association with crude rubber compounds is to cause the union of the rubber with the fabric in the vulcanizing operation. When this union is broken, the rubber article rapidly begins to deteriorate. In the case of tires, the breaking of this union is called separation and is usually the initial stage of destruction, which progresses rapidly from this point on. With threads or yarn treated with rubber latex, tests have shown that the union lasts very much longer than is the case with threads or yarns treated by the processes heretofore in use.

Advantages of Latex-Treated Fabrics

"The latex fabric produced by this new process possesses characteristics which present exceptional resistance to separation of the rubber and cord thus providing a longer life for tires, belting, and other articles manufactured therefrom. These charactertistics are due in part to the ability of the rubber to stretch uniformly so that for example in a tire the strain from bead to bead is more evenly distributed. The rubberized cords have greater endurance when prepared from latex. Increased penetration of the fibers by latex partially accounts for this increased endurance. It is also due to the fact that the rubber from latex in contact with the cords has not been broken down whereas in preparing cord fabric by the usual methods the rubber is broken down before application.

"In addition, the latex treated cords possess an advantage over cement-treated cords in that all of the natural constituents of the rubber are applied to the cords, whereas in cements many of the natural constituents have been lost in the process of manufacture of crude rubber. Further, by virtue of the presence of all the natural constituents it appears that the rubber may be vulcanized more rapidly than rubber applied by cements. The use of latex for coating cords and similar materials as compared with coating by cements, that is, solutions of rubber and volatile organic solvents, possesses the advantage that in the case of latex the drying process causes the evaporation of water as compared with the evaporation of naphtha or other solvent employed for making rubber cement. The loss of such solvent entails an increased expense as compared with the loss of water from latex and a similar increase in expense occurs if solvent recovery apparatus is installed.

"The method being used by the United States Rubber Company at present in the production of such fabric is exceedingly simple. A series of cords is led from spools mounted on a creel. The cords, arranged in parallel relationship and with each cord touching its adjacent cord, are passed through latex contained in a tank. In the tank the latex treated cords are still in parallel relationship with each other and the latex fabric so formed is wound, after being dried on a series of dry cans, on a wind-up roll when it is ready to be shipped to the factory for use in tires, belting, etc.

"These two important developments result in great advantages to both the plantations and the rubber manufacturer. From the plantations' viewpoint it means the simplification of the process of converting latex into crude rubber suitable for use by the rubber factory with possible savings over the present costs, and because of the absolute uniformity and high quality which the Hopkinson Process gives it should mean greatly increased quality of the vulcanized article. To the rubber goods manufacturer these developments mean that the end he has so long sought—a pure, clean rubber of absolute uniformity and highest quality—has been attained.

"By the combined use of this rubber and the latex-treated fabric the United States Rubber Company is in a position to make its products of a quality that cannot be surpassed by any product or process now known."

Comes from Machine White and Spongy

The product as taken from the Hopkinson machine is porous or spongy in its consistency with little resiliency and white in color. It can readily be broken apart with the fingers and upon being squeezed in the hand the sensation is similar to that arising when snow is similarly compacted. As collected from the chamber, the gravimetric density has been found to be 0.30 to 0.40 at 70 deg. F.

In order to form this spongy product into a crude rubber mass, it is placed in a hydraulic or other press or passed between pressure rolls and compacted. The air cavities thereupon disappear, the particles cohering and assuming the general characteristics of crude rubber. Of course this compacting process need not be a separate step solely for the purpose of compacting, as it will be obvious that this compacting may be effected in any necessary milling or calendering operation incident to the manufacture of vulcanized rubber articles; or the compacting, in some cases, may be effected in the pressure mold.

20 Per Cent Increase in Tensile Strength

One of the chief differences in the character of sprayed crude rubber when compared with ordinary crude rubber appears upon vulcanization. When the material is milled with sulphur, an increase in tensile strength and resistance to abrasion of approximately 20 per cent occurs. Such increase in tensile strength is shown in connection with the following example of rubber mixes in which the following ingredients were employed:—

A. Coagulated and Milled: Rubber, 100 parts; zinc oxide, 150 parts; sulphur, 10 parts. Tensile strength 2,000 lb. per sq. in. Vulcanization at 40 lb. steam pressure for 2 hr.

B. Sprayed: Rubber, 100 parts; zinc oxide, 150 parts; sulphur, 10 parts. Tensile strength, 3,100 lb. per sq. in. Vulcanization at 40 lb. steam pressure for 2 hr.

When vulcanized and compounding ingredients are mixed with latex, preferably in the presence of saponin, and then sprayed, the resistance to abrasion and tensile strength noted above upon comparison with ordinary crude rubber is found to be even more greatly improved than where the vulcanizing and compounding ingredients are introduced, as in the case of the sprayed rubber indicated above, by milling. Such increase is probably due to the absence of such milling operation which tends to break down the rubber as is well known, and also the increase in the homogeneity of the mass, which is apparent upon examination under the microscope. The presence of the increased quantity of protein in the sprayed rubber aids in accelerating vulcanization whether the vulcanizing ingredients be added before or after spraying.

It will be observed that various types of vulcanizing ingredients such as sulphur heretofore mentioned, nitro compounds, or sulphur compounds, such as hydrogen sulphide and sulphur dioxide, may be employed in connection with latex, being applied preferably before spraying in order that the homogeneity of the mass may be improved and milling avoided, although they may be added at any desired time. As pointed out, compounding ingredients such as carbon black, gas black, zinc oxide, and other materials, may be added before or after spraying, preferably before spraying. In some cases the latex may be sprayed and the powdered vulcanizing and compounding ingredients blown separately into the latex spray. The ordinary processes of vulcanization may be employed in connection with the material.

SCIENTIFIC MANAGEMENT FOR RUBBER MANUFACTURERS

Cost of Material, Labor, and Overhead—XIII.

By Alfred Baruch

Consulting Industrial Engineer, New York

THE elements that make up the cost of a product have been divided into several groups. Labor and material have been designated as the prime cost; when burden is added, the group is called factory cost; and total cost includes office and selling expenses as well.

Material costs in a rubber factory consist of the raw stores plus the cost of handling and storage. The control of raw material is by far the most important since most of it goes through in a continuous process so that gettng the cost of it at the beginning practically means knowing the cost of the material all the way through the factory. The raw materials and supplies are accounted for through the use of a perpetual inventory.

The first cost of the crude rubber consists of the purchase price plus freight, handling, and storage. The rest of the cost is made up of the pigments and fabric. As the material passes through the various stages of the process, it accumulates labor value until it reaches its completed form. Then its cost is not changed although the product goes through many successive operations. For example, the beads increase in cost until they are finished beads, then they enter the cost of the tire and their cost remains constant throughout the time manufacturing departments. However, it is necessary to keep a record of the monetary value of the material only in its raw form.

In a well-designed system of management the records that are used for production can be made to serve as the source of cost information as well. This is very easy to do where the production order is used as the basis for measuring the cost. By this method actual costs for labor and material can be applied to the order since the rubber manufacturer produces to stock and need not determine his prime cost until after the order is completed.

The stores inventory is the natural basis for material cost. Freight, handling, and storage charges may be added as a flat rate. The production order is charged with each material as it enters into the product. For example, crude rubber and warp may be considered as the basic materials for a cord tire. The production order for the tire will be charged with all the rubber and the fabric that go to make up the plies and the sidewall. In most processes the warp has to be given a cement bath before it can be impregnated with rubber. From the point of view of the cement department, the cement is a finished product and the production order for cord tires is charged with the full cost of this product. The beads, flaps, and treads are also treated as raw material on the production order but they are finished products for the bead and tread departments.

The material requisition comes to play a very important role in both the cost and production schemes. The original order is issued by the planning department. Based on this order, the planning department also issues requisitions to the various departments supplying the components of the product. Suppose an order for 5,000 34 x 4 cord tires is issued. Requisitions for 5,000 treads, 10,000 beads, etc. would also be issued. These departments in turn combine these orders with others that they have received to requisition material from the calender, mill, and stores department as the case may be. An even better way is to have the planning department issue requisitions to all departments as it is in the best position to coordinate the production.

Reference to the article on material control will show that the requisition provides space for evaluating the material in each case. By simply making an additional copy of the requisition which may be sent to the cost department, it is possible to arrive at the cost of the material after it has been made and delivered. For example, the bead department receives an order for 10,000 beads. This requisition is made out in triplicate and the first two copies go to the bead department. When it completes the order and forwards it to the tire building department, it notes the fact on one of the copies and forwards it to the cost department where the requisition is priced and entered on the original production order.

There are several methods of pricing the requisition. One is to use the current market price at the time the order is being charged; another is to use the original cost price; and the third is to strike an average which will take into account all the price variations from the beginning of the fiscal year up to the present time. If the original cost is to be used it is absolutely necessary for the cost department to put on the original cost price as shown by the stores record before the requisition is issued. Whenever material is used to repair or replace any part of the equipment the department undergoing the repairs is charged with the cost of labor, material, and overhead made necessary.

Labor Costs

In the case of labor reports, as with material, the production records can be used as the basis for costs. In crediting the man with his time, the entry should be made on a payroll sheet specially designed to suit the purposes of the rubber manufacturer. This sheet should contain a column for the number of the man, his name, the number of hours he has worked each day of the week, the total hours, his rate, and the amount due to him. The remainder of the sheet is given over to a distribution of the labor charges to the departments which incur them, if the labor is indirect, and to the productive payroll record if it is direct. If there are too many departments, distribution will have to be made in a separate book although this is not advisable since it means a duplication of effort.

CORRECT COST-KEEPING IN A RUBBER FACTORY

IN this article Mr. Baruch continues his discussion of costs in some detail, and outlines a scientific method of distributing various cost charges. Overhead is divided into two parts: Selling and Office Expense and Shop Expense. Shop Burden is divided into Washing, Cracking, and Drying; Compound Room; Mill Room; Power, Light, and Heat Expense. Finally distribution of General Expenses is suggested.

The two articles to follow will continue to discuss costs, and will conclude this series which has aroused the greatest possible interest on the part of rubber manufacturers.

Wherever it is possible through the use of a proper system of dispatching, it is advisable to have the time reports made out by the dispatchers instead of the men themselves. This is especially unsafe where the men do a great variety of work and cannot be depended on to apportion the time to each class of work in the way it should be done. For example, suppose a calender crew changes from coating friction to sheeting out tube stock. If it has to do this regularly and distributes the time between tube stock and coating in the wrong way, the cost of both the tires and the tubes will be inaccurately calculated.

Nor is it advisable to burden the foreman with the task of checking or making out men's time, himself. It is better to have individual reports for each job or else to have the dispatchers make out the reports, distributing the time to each job. This may be done in the following manner: the orders for the calenders can be made out in the form of tags, perforated in enough sections to furnish all the information wanted by all departments. When one job is nearly completed the foreman or inspector takes the coupons to the office where he is provided with a new set of tags indicating the next job to be done. If the dispatching system is complete the dispatcher is the one who sees to it that the material and equipment such as liners, and shells are ready for the next job.

When the dispatchers make out the time, it is unnecessary to fill out individual time cards. The report may be made on a sheet which shows the distribution of time to all jobs. In the calender department for example, this sheet would be divided into columns headed calender number, name, clock number, job number, and total hours. This sheet would show the rate at the top and the total hours chargeable to each job at the bottom.

Another way of charging labor to a production order is to set up labor standards through time studies and then charge each order at the standard rate for that class of work regardless of actual production. Reports are made only in case standards are not kept. The lost time may be considered as a charge against the profit and carried to the profit and loss account. This would be the more scientific way of handling labor charges.

This method prevents any orders that happen to be on the machine or in a department when any holdup or breakdown of any sort takes place from being charged with the cost of this loss of time. Incidentally, it saves all the clerical labor of having to make out time cards since the jobs are charged at the standard rate and the men are paid for the number of coupons they turn in. This is known as the budget costing of an order. That is, each order is placed upon a budget and every effort is made to keep its labor cost complete within the limits of the budget. In case the budget is exceeded the particular job is not made to pay the penalty if it in itself is not at fault. The loss is distributed over all jobs or else it serves as a charge against the reserve which has been accumulated from orders that took less than the standard time.

Overhead

In order to bring about a scientific distribution of indirect expense it is necessary to separate it into two groups:

1. The Selling and Office Expense.
2. The Shop Expense.

If the organization is very large the selling expense must be kept separate but in any case it is necessary to separate office and selling expenses from the shop expenses because the latter is applied on the basis of units of production while the former is naturally a flat charge against the entire cost.

Office and Selling Expense

The starting point in consideration of office expense is the salary of the president and other officials of the shop. These men must assign themselves such salaries as they believe they would earn while working for someone else. Next come the salaries of the salesmen if salaries are paid, if not commission may be charged to this account. Some men prefer to have commissions deducted from the gross profit. By charging the commission to the cost it is possible to avoid overlooking parts of the cost that really affect the profit. It is better all round to pay the salesmen a salary than to place him on a commission basis. There is so much service that must be given the dealer and the public that it is doubtful whether the salesman has an opportunity to sell in the customary sense of the word.

Salaries of bookkeepers, stenographers, and other clerks must be included in the list of office expenses. Office supplies, membership fees, printing and stationery, telephone and telegraph, charities, and miscellaneous expenses complete the list for the office. Advertising and traveling expenses must be charged to selling.

Shop Burden

As indicated in the previous chapter, the shop burden is distributed according to departments which in turn are split up into production centers or production units. In order to bring about an automatic distribution of the cost all indirect expenses are assigned order numbers by departments so that an expenditure will automatically be charged against a department through the identification of the order number. The system offered below is the Dewey decimal system although other symbols may be used. The departmental order numbers follow:

1. *Washing, Cracking, and Drying*

Order Number	Expense	This Month	Last Month	Increase	Decrease
101	Foreman				
102	Labor				
103	Maintenance				
104	Supplies				
	Total				
	APPORTIONED EXPENSES				
	Heat				
	Light				
	Power				
	Depreciation				
	Fire Insurance				
	General Expense				
	Total				
	Total washing Expense				

2. *Compound Room*

Order Number	Expense	This Month	Last Month	Increase	Decrease
201	Foreman				
202	Clerical help				
203	Maintenance of machinery				
204	Maintenance of equipment				
205	Supplies				
206	Miscellaneous				
	Total				
	APPORTIONED EXPENSES				
	Heat				
	Light				
	Power				
	Depreciation				
	Fire Insurance				
	General Expense				
	Total				
	Total Compound Room Expense				

3. *Mill Room*

Order Number	Expense	This Month	Last Month	Increase	Decrease
301	Foreman				
302	Clerical help				

303	Maintenance of machinery				
304	Maintenance of equipment				
305	Supplies				
306	Miscellaneous				
	Total				
APPORTIONED EXPENSES					
	Heat				
	Light				
	Power				
	Depreciation				
	Fire Insurance				
	General Expense				
	Total				
	Total Mill Room Expense				

The same distribution can be followed with other departments using the order numbers given below to identfy each

400 Spreaders
500 Calenders
600 Bias Cutters
700 Bead Department
800 Air Bags
900 Carcass Building
1000 Tread Making
1100 Curing
1200 Inspection
1300 Stock Rooms
1400 Rolling and Curing Tubes
1500 Finishing Tubes
Etc.

In additon to the departmental charges there are certain expenses which cannot be charged to one department and which must be distributed over all of them on the basis of consumption or service remedy.

Power and Light Expense

Order Number	Expense	This Month	Last Month	Increase	Decrease
2000	Power plant and sub-station labor				
2001	Maintenance of equipment				
2002	Oils and Waste				
2003	Bulbs				
2004	Fuel				
2005	Maintenance of buildings				
2006	Maintenance of boiler				
2007	Current purchased				
2008	Miscellaneous expense				
	Total				
APPORTIONED EXPENSES					
	Depreciation				
	Fire Insurance				
	Total				
	Total Power and Light Expense				

The total power and light expense is apportioned between power and light on the basis of the current used.

We will say for the sake of illustration that 20% of the expense goes to light and 80% to power. These two amounts are again distributed to each department on the basis of meter charges in case of lights and motor operation in case of power. Where the meters are not installed it is possible to arrive at an approximate distribution by multiplying the total number of watts burned in each department per hour by the number of hours the lights are on. The following is an illustration of how the power might be distributed to the departments:

Distribution of Power Expense

Department	Per cent.	This Month	Last Month	Increase	Decrease
Washing	3%				
Compound	2%				
Mills	18%				
Calenders	17%				
Spreaders	5%				
Bias Cutters	10%				
Air Bags	2%				
Beads	2%				
Building Tires	6%				
Treads	10%				
Cure	15%				
Inspection	0				
Stock Room	0				
Making and Curing Tubes	5%				
Finishing Tubes	5%				
Total	100%				

The same distribution can be followed for light depending on the number of watts used in each department.

Heat Expense

Order Number	Expense	This Month	Last Month	Increase	Decrease
2101	Labor				
2102	Maintenance of building				
2103	Maintenance of boiler equip.				
2104	Maintenance of ducts				
2105	Supplies				
	Total				
APPORTIONED EXPENSES					
		This Month	Last Month	Increase	Decrease
	Depreciation				
	Fire Insurance				
	Total				

General Expenses

Order Number	Expense	This Month	Last Month	Increase	Decrease
2201	Salaries of super.				
2202	Clerical salaries				
2203	Yard labor				
2204	General labor				
2205	Sickness and accident relief				
2206	General repair men				
2207	Printing & stationery				
2208	Office supplies				
2209	Travelling expenses				
2210	Demurrage				
2211	General stores				
2212	Telephone & telegraph				
2213	Watchmen				
2214	Machine shop				
2215	Trucking				
2216	Maintenance of building				
2217	Maintenance of yard				
2218	Maintenance of trucks				
2219	Taxes				
2220	Miscellaneous expense				
	Total				

Distribution to the individual department is made on the basis of departmental hours. This list of general expenses is only an indication of what may be done since each plant will have expenses peculiar to itself.

Export Representative Declares Government Report on Mexican Tire Situation Harmful

THE editor of this publication is in receipt of the following letter from Honolulu, Hawaii, written by a representative of the export department of the Ajax Rubber Company of New York, who is now in the Far East promoting the tire interests of his company. We publish his communication practically without change from the form in which it was received:

Honolulu, T. H.

Editor of THE RUBBER AGE,
New York, N. Y.

SIR:—I want to call your attention to the article under the title The Mexican Tire Market on Page 9 of Oct. 10, 1922, issue of THE RUBBER AGE as follows:

> "At first glance it might seem surprising that Mexico should be able to take as many tires as it has from the United States during the past two and one half years, especially since it has only 25,000 cars and trucks and has been economically and politically unsettled for so long a time. In 1921 Mexico imported almost as many tires from the United States as in 1920, while during the first six months of 1922 its imports have fallen off about 20 per cent in value as compared with 1921—a decrease that is somewhat more than off-set by this year's lower prices."

I want to first acquaint you with the fact that I represent the Ajax Rubber Company, of New York, and am interested in the development of their business in the Orient at the present time. I have specialized in the sale of rubber products, especially tires, for some years, and am quite familiar with the situation, in so far as the tire industry is concerned, in Mexico.

You are undoubtedly acquainted with the fact that in Latin countries, in order to acquire business, good will is one of the imperative necessities. THE RUBBER AGE *is read freely by representative business men in Mexico,* and upon their reading such a report as is inserted therein whatever business connections American concerns may have there are jeopardized.

I realize that you have printed information that has come from what might seem to you as reliable sources, and what I wish to say in regard to this is co-operative and I hope you will take it in the spirit in which it is extended.

Mexico Offers "Wonderful Opportunity" to American Tire Manufacturers

Mexico is an important tire market because it is one of the countries on the American continent that has such a number of cars as stated in your publication—25,000—which might be taken as correct. It seems to me that with such a wonderful opportunity to secure as much of the tire business as possible that we ought to employ methods that are less discourteous than those which we resort to sometimes, almost unwarranted.

Mexico may have been politically unsettled up to two and a half years ago, but I can safely say that its political situation has had very little relationship to its commerce. If the statistics of motor cars exported from the United States during the early months of this year are checked up, you will find that Mexico is standing at the head of the list; that is, Mexico has imported more motor cars during that time than any other country on earth, with the exception of Canada. Also I believe Mexico has been heading the list in late months in the importation of motor trucks. Motor trucks, we take is, are indicative of commercial activity, and assuming this to be true Mexico is not in the condition indicated by the article appearing in THE RUBBER AGE.

I want to tell you that we are not getting our share of tire trade from Mexico. When I say "we" I mean the American rubber industry in the United States; and we simply cannot hope to increase our business there if we do not encourage instead of employing the reverse method.

The article in question says:

> "Despite Mexico's unsettled state of affairs, there are, of course, certain classes of people who still have the means to operate motor cars and buy tires."

When this is read by Mexican business men the only expression that can be had from them is quite warranted, since this statement is humiliating to a considerable extent; especially because of the manner in which it is made. Mexico has facilities to buy motor cars and tires. The people are very progressive. They believe in modernizing and the motor car has come into its own in that country. When I give you this information you may be sure, at least, that I am familiar with the situation by virtue of personal contact.

Here is a point I would like to have you analyze and see if it balances with the statement made in this article. Mexico today is the most stable market in the world from the standpoint of foreign exchange; it is the only country on earth operating on a purely metallic basis. They are economically able to transact all business without any immediate effect on their monetary resources.

European Tire Makers Aggressively after Business

This article further says:

> "Their business naturally drifts to the United States, which is the only logical source of Mexico's tire supply."

Another absurdity! We must not ignore the fact that European tire makers are very aggressively and actively represented in Mexico, and that they get a very substantial share of Mexico's tire trade. Business from Mexico does not naturally drift into the United States, as the article claims. American manufacturers have made the utmost effort and investment in order to get whatever business we may be enjoying now, and it seems to me that we can contribute to the securing of a further share of tire business in Mexico by refraining from making such statements, which is the medium through which business is actually destroyed.

> "It is doubtful, however, whether the volume of business from this source will increase very much, while it is certain that the number of new motor car owners will not increase materially under present conditions."

I want to tell you that during the greatest turmoil of Mexico's internal trouble—the period 1910 to 1919—there were over 8000 motor cars imported.

As a whole, the article referred to is absolutely wrong, and it seems to me that an objective has been obtained. The writer of such article is destroying our efforts to secure our share of business in Mexico.

The roads in Mexico have not been allowed to deteriorate, as stated in the article. Mexico City, for instance, has all of its streets, with very slight exceptions, very well paved, and you can imagine what this means when you remember that Mexico City has nearly one million population. The Auto Club in Mexico City has been very active in continuously assisting the motoring public to acquire new roads and better roads, and such an article will be viewed as an attack.

"Maurauding bands" may infest the rural regions, as inferred in the article, but let me tell you that in the rural regions there are no motor cars. Motor cars are confined to the larger cities, and all the large cities in the neighboring republic are well provided with roads for their ultimate purpose. The cities in Mexico—that is where most motor cars are—have hardly suffered any of the consequences of revolution, as fighting was very rarely attempted within such cities. This fact renders the statement in the article absolutely untrue.

Future expansion can be expected from the cities and not from the rural regions, because we know rural regions are

(Continued on page 256)

Areas Planted to Rubber in British Malaya

(By U. S. Consul Renwick S. McNiece, Penang, Straits Settlements)

THE acreage devoted to plantation rubber in Malaya may be judged from statistics which have recently appeared. According to the figures given in the Annual Report of the Planters' Association of Malaya for 1921-22, the acreage planted in the Federated Malay States up to December 31, 1920, was 779,170. The Straits Settlements Government Gazette of July 14, 1922, which includes the year 1921, shows 526,346 acres in the Straits Settlements and Non-Federated Malay States planted to rubber in bearing; if to this figure is added the acreage planted but not yet tapped and also the area interplanted with crops other than rubber, a total acreage of 991,341 is shown. Combining the figures given above, there appears a total of 1,770,511 acres planted to rubber in British Malaya.

Allowance for Small Holdings

It should be noted, however, that the figures for the Federated Malay States relate to estates of more than 100 acres. [In the Straits Settlements and Non-Federated Malay States the acreage of small holdings (less than 100 acres) in bearing totals 185,064, over 35 per cent of the total area in bearing, which indicates the importance of small native planters in the production of rubber in that area.] There are many small native holdings of less than 100 acres in the Federated Malay States and due allowance should be made for them. If only 5 per cent is added to the acreage in the Federated Malay States to account for estates under 100 acres, the total area planted to rubber in British Malaya will be approximately 1,810,000 acres. To this figure there should be added the acreage in the Federated Malay States which was planted during the year 1921. The depression in the rubber industry was pronounced during that year and the planting of new areas was probably curtailed to a considerable extent. The report shows that 64,636 acres in the Federated Malay States were planted to rubber in 1919 and 42,428 acres in 1920. Therefore, it seems reasonable to believe that 25,000 acres were planted during 1921, and adding this sum to the total area already arrived at, there were approximately 1,835,000 acres under rubber cultivation in British Malaya at the end of 1921.

Present Productive Acreage

The area given for rubber in bearing in the Straits Settlements and Non-Federated Malay States through 1921 is 526,346 acres, while for the Federated Malay States the acreage in bearing through 1920, on holdings of more than 100 acres, is 517,948. If to this figure we add 5 per cent for estates less than 100 acres in extent, the total for the Federated Malay States is 543,845 acres, making the total acreage in bearing for the whole of Malaya approximately 1,070,000 acres. It must be borne in mind that there is a discrepancy of one year in the figures for the Federated Malay States and the figures for the rest of Malaya. During that year probably 25,000 acres came into bearing in the Federated Malay States, since there was an increase of 27,576 acres in bearing between the years 1919 and 1920. By making this allowance the area in rubber in bearing in the whole of British Malaya is not far from 1,095,000 acres.

Prospective Increase in Productive Acreage

If the total area earmarked for the planting of rubber is considered, we find 1,201,689 acres in the Federated Malay States and 1,320,606 acres in the Straits Settlements and Non-Federated Malay States, a total of 2,522,295 acres. Comparing this with the approximate area planted to rubber, 1,835,000 acres, it appears that there is a potential area, alienated for rubber but not yet planted, of about 687,000 acres. No doubt a great deal of this land is not suitable for planting, but since the present production is in excess of the present consumption, the capacity of the industry for expansion is seen to be great. From the above it may be noted that approximately 740,000 acres will be coming into bearing during the next six or seven years, in addition to which there are 687,000 acres set aside primarily for rubber which have not yet been planted. Under present conditions it is not likely that much of this potential area will be planted.

Export Representative Declares Government Tire Report Harmful

(Continued from page 255)

not so situated that motor cars can be successfully operated there.

> "Cash on the border, or other point of exit, should be an unvarying rule."

This is another absurdity, which closes the article in question. This suggestion is indeed one that is not in keeping with ethics—business ethics I mean—for many American tire factories are enjoying a fairly good business at the present time on a basis which is not that recommended by this article, but one which is molded to suit the business involved, and the character of the men who handle such a trade for the American manufacturers. Permit me to tell you that you are reflecting upon the good will and credit of men who are able to care for their obligations in their country and men whose strict policy in business is honesty and fair dealing.

I would make recommendation, on the strength of the statements set forth, that you make these corrections. American tire manufacturers are striving for supremacy for their business in foreign countries and they are deserving of the greatest support on the part of their industrial organs that should refrain from making any statements which would jeopardize such interests.

The purpose of your publication, I take it, is to enlighten people on the rubber industry in general. If that is the principle of your publication—which I have followed with much interest in the past—I assume you will give this matter your careful consideration and support instead of the reverse.

S. B. DE REACHI
Export Department, Ajax Rubber Co. of New York

EDITOR'S NOTE:—The article referred to by Mr. De Reachi was prepared and supplied to THE RUBBER AGE *by the Rubber Division of the United States Department of Commerce, Washington, D. C., and was, therefore, presumably based upon official and authentic information. We had no reason to question the source of the department's data nor the authority of the statements based thereon which were given us for publication. We are indeed glad of the opportunity to present the reverse of the picture, from one who evidently knows whereof he speaks, for the enlightenment of our readers.*

Cotton in Salina Cruz, Mexico

COTTON is grown in the southwestern part of the State of Oaxaca in the region around Pinotepa Nacional. About 600 hectares (1 hectare = 2.471 acres), were planted last years, says Vice Consul Seitzer, and this year about 800 hectares have been sown to seed. Planting takes place in the months of August, September, and October and the picking in February, March, and April. The average yield per hectare is estimated as 1,500 kilos of lint cotton, although in many cases the yield is as high as 2,000 kilos. The cultivation of the crop is in the hands of Indians who work under the most primitive conditions and who plant only one or two hectares.

NEWS OF THE INDUSTRY

A Review and A Prophecy

1922 *Rubber Consumption in U. S.* 250,000 *Tons—Higher Rubber Prices Predicted for* 1923*—Views of New York Rubber Brokers*

THE consumption of rubber in the United States during 1922 is estimated at 250,000 tons, which exceeds any previous year, according to Paul Elbogen, vice-president of Fred Stern & Co., crude rubber brokers, New York City.

"Approximately 80 per cent of the 1922 consumption," Mr. Elbogen said, "was used for tires. From a statistical point of view there is a surplus in world rubber stocks of 150,000 tons, not including stocks in transit. This is about 40 per cent of the world's annual consumption. Surplus stocks at the close of 1922 are approximately 10,000 tons less than the previous year. The world's production next year, under the Stevenson restriction plan, will be about 260,000 tons, or only 10,000 tons more than the United States consumes annually. The consumption for 1923 is estimated at 360,000 tons.

This does not mean there will be a shortage of crude rubber, however, for there is at present 150,000 tons of stock or, with the production program, about 60,000 tons more than the estimated consumption for 1923. From the statistical position it is obvious that the tendency is very bullish and prices will most likely be marked up."

Rubber Prices Rose 115 *Per Cent*

Prices of crude rubber in January, 1922, were 20½ cents a pound. From March to September rubber was 15 cents a pound and at the end of September 13½ cents, and from then on as a result of the restriction program prices rose until they were approximately 29 cents a pound.

The year 1922 began with the hope that voluntary restrictions at the plantations would be effective, and so reduce the constantly increasing stocks, and ended with a government-enforcing restriction of 40 per cent after the failure of the first hope, according to H. Cross, of Arthur Stedman, crude rubber broker, New York City.

"Owing to the lack of the usual forward trading with the factories," Mr. Cross said, "the local market narrowed down very noticeably. It was in this position of exceedingly narrow trading and low prices that the Stevenson plan for restricting production was brought forward, accepted by the Colonial Secretary, passed by the several legislatures and ratified by all before the first of November.

Even Higher Prices for 1923

"Meanwhile, prices started to advance. Sellers, being undecided as to the outcome, held their rubber, and the market advanced 47 per cent between October 2 and October 17. This advance drew several of the larger factories which were low on stocks into the market, and their efforts to cover their requirements helped to force the market to higher levels.

"The situation as the year closes is one of waiting. Dealers realize that the market must ultimately go to at least 15d, the minimum as fixed by the Stevenson plan, and are therefore inclined to withhold their rubber from the market. Factories are generally in the throes of inventory and paying little attention to the market. The indications point to somewhat higher prices before the end of the first quarter, and a probable shortage of rubber, with consequently higher prices, before the end of 1923."

Many Tire Manufacturers Increase Prices

Due to the increased cost of crude rubber, tire fabrics, and in some instances, wages, a number of leading tire and tube manufacturers have advanced consumer prices from five to fifteen per cent within the last few weeks. Some of these manufacturers are as follows:

Bergougnan, Brunswick, Englert, Fisk, Goodrich, Goodyear, Hardwear, Howe, Hudson, Kelly-Springfield, Martin, Mason, U. S. Tire Co.

Others will probably fall into line soon and announce price increases.

General's Profit Over Million

A net profit of $1,021,000 for the year 1922 was shown in the annual report of General Manager William O'Neil at the annual meeting of General Tire and Rubber Co., Akron.

Total sales for the year were $7,600,000, as compared with $6,000,000 in 1921.

All officers and directors of the company were re-elected. The officers are:

M. O'neil, president; William O'Neil, vice president and general manager; W. E. Fouse, secretary; Charles Herberich, treasurer; and W. J. Cahill, assistant secretary.

Firestone Urges U. S. Government to Develop Rubber in Philippines

Harvey S. Firestone, president of the Firestone Tire & Rubber Co., Akron, Ohio, was in Washington on Jan. 4 to urge upon high officials of the United States goverment the development of rubber plantations on an extensive scale in the Philippine islands. This would be to combat the restriction plans of the British government in Malaya, Straits Settlements and Ceylon, he told these officials.

"The restriction and export duty laws passed by the British colonial governments," said Mr. Firestone, "will cost rubber users in this country $100,000,000 in 1923. This uncalled-for legislation should be modified in a drastic manner or rescinded entirely. The price of crude rubber has already advanced more than 100 per cent."

More than 1,000,000 acres of suitable land are available in the Philippines, he added, and the temperature, soil, and labor conditions are ideal for rubber growing in the islands. Through the Firestone factories in this country and Canada he stands ready to encourage such a project by contracting for thousands of tons of Philippine-grown rubber.

Strike at Goodrich Plant

More than 500 cord tire builders and finishers went on strike at the B. F. Goodrich plant in Akron on Jan. 3, according to reports in the local newspapers and statements of the workmen's strike committee. The strike followed a reduction of 12½ per cent in band builders' piecework rates. The men paraded through the downtown streets of the city after M. A. Flynn, Goodrich labor department head, is said to have refused to grant the demands of the workers.

The company issued a statement that there has been no change in piecework rates in the cord tire builders' and finishers' division, and that all builders and finishers were working and all divisions of the cord tire department would be on a normal basis in a few days. This was in direct opposition to the statement of the workers' committee.

Western U. S. Managers Meet

The branch managers of the U. S. Rubber Co. from all states included in the western division met recently in San Francisco for a three days' conference. J. B. Brady presided at the sessions. A dinner at the Golf and Country Club ended the meeting. "From every standpoint I believe it was the most successful meeting we have ever held," said J. B. Magee, manager of the Southern California branches of the company.

Personals

James D. Wilmot is the new factory manager of the Boston Rubber Shoe Co., Malden, Mass. At the annual meeting and dinner on Dec. 14 the following officers were elected for 1923: A. W. Coombs, president; Thomas E. Tracy, vice president; George Bushway, secretary-treasurer.

• • •

W. H. Cope, for seven years with the Lee Tire & Rubber Co., Conshohocken, Pa., is now with the R. T. Vanderbilt Co., New York City, as technical secretary and assistant to Dr. A. A. Somerville.

• • •

Edward B. Germaine will be the new president of the Dunlop Tire & Rubber Corp. of America, Buffalo, N. Y. Sir Eric Geddes, brother of the British ambassador, is chairman of the board.

• • •

C. B. Sipes of Firestone was elected president of the Akron Traffic Study Club at a recent meeting. On the board of directors are H. J. Zillman of Goodrich, R. P. Bowe of Goodyear, and E. L. Morgan of Miller.

• • •

W. E. Stock, formerly assistant sales manager of the Gordon Tire & Rubber Co., Canton, Ohio, has been made sales manager of the Master Tire & Rubber Co., Dayton. He was at one time branch manager of the Dayton Rubber & Mfg. Co.

• • •

Three recent British visitors to Akron were T. C. Redfern, managing director of the Redfern Rubber Works, Ltd., Manchester; W. J. Martin, chief chemist of the North British Rubber Works, Liverpool; and Ernest Buckleton, prominent in the reclaimed rubber trade of England.

• • •

John Lowman, first vice president of the Philadelphia Rubber Works Co., Akron, visited England and the Continent during December.

• • •

A. B. Stiller, head of the sales promotion department at General, attended the recent sales conference of his company at Kansas City, Mo. He will also attend the western district conclave at San Francisco in January.

• • •

B. M. Pettit was recently appointed manager of the Goodyear branch in Milwaukee, Wis.

• • •

H. K. Raymond, vice president in charge of production at Goodrich, was operated upon in an eastern hospital, and is reported recovering.

• • •

Calvin Stitt, general sales manager of the Krippendorf-Tuttle White Cliffs Products Co., Chicago, on his return from a visit to the company's plant at White Cliffs, Ark., reports the works going nearly at capacity and shipping large quantities of K-T chalk whiting. Many contracts for this year are being made.

IRVING R. BAILEY

Irving R. Bailey Dead

Irving R. Bailey, vice president and sales manager of the Seiberling Rubber Co., Barberton, Ohio, died at his home there on the morning of January 9. He had suffered a stroke of apoplexy on New Year's day while preparing for a vacation to California and did not regain consciousness.

Mr. Bailey was fifty-five years of age and one of the best known rubber men in the industry, so much so that among his business associates he was called "India Rubber Bailey." He was a native of Sandstone, Mich.

One of the pioneer salesman in the rubber trade, for thirty years Mr. Bailey was identified with several leading companies. In the early days he was sales manager for the Bailey Co. of Boston, handling rubberized clothing. After the merger of the Diamond and Goodrich organizations "Bill" Bailey, as he was known to his intimates, joined Goodyear and in 1913 became manager of mechanical goods sales. For ten years before that he had handled the sales of the Diamond company.

In 1919 Mr. Bailey was advanced to assistant sales manager of Goodyear, and at the time of the Goodyear reorganization in November, 1921, he joined F. A. and C. W. Seiberling as vice president and sales manager of the Seiberling company of Barberton.

Mr. Bailey was a member of the City Club and the Portage Country Club and of the following Masonic bodies: Adoniram lodge, No. 517, Akron; Washington Chapter, No. 25, Royal Arch Masons, Akron; Akron Council No. 60, R. & S. M., Akron; Akron Commandery No. 25, Knights Templar; Lake Erie Consistory, A. A. S. R., Cleveland; Al Koran Temple, A. A. O. N. M. S., Cleveland.

Funeral services were to be held from the Masonic Temple in Akron on Jan. 12 in charge of the Knights Templar, and Rev. Franklyn Cole Sherman. The deceased is survived by a widow and daughter, Beatrice.

N. J. Zinc's New Warehouses

The New Jersey Zinc Sales Co. has established two more warehouses from which can be withdrawn stocks of the various pigments manufactured by The New Jersey Zinc Co. The new warehouses are located at Baltimore, Maryland, and Toledo, Ohio.

The Zinc Company now has three distributing centers in Ohio, the others being in Cleveland and Cincinnati. Customers requiring supplies of zinc oxide and "Albalith" from any of these Ohio warehouses can arrange for such withdrawals by communicating with The New Jersey Zinc Sales Company, Room 1138, Guardian Building, Cleveland, Ohio.

Arrangements for withdrawal of pigments from the Baltimore warehouse can be made by communicating with The New Jersey Zinc Sales Company, 160 Front Street, New York City.

Jenckes to Sell Central Falls Mills

The Jenckes Spinning company has placed on the market for sale its Cotton Division plant at Pawtucket, Rhode Island. Several months ago the plant was closed down for an indefinate period because of reported unfavorable manufacturing conditions in that part of the state, The mill is being cleared of machinery and the 58,000 spindles there will be shipped to the company's mills at Gastoria, N. C. and Drummondville, Canada.

New Schrader Dust Cap

The illustrations show the new Schrader Dust Cap with combination rim nut and bushing. The advantage of this dust cap is the ease and rapidity with which it can be attached and detached. A few turns of the hand to the right and the dust cap is screwed on to stay. To remove, simply reverse the operation. The point is always to screw the dust cap on by hand, but the combination rim nut and bushing should be screwed down tightly against the felloe of the wheel with pliers or a wrench. Not only does this hold the valve stem rigid and prevents "creeping" of the inner tube, but makes it possible to quickly unscrew the dust cap without disturbing the rim nut bushing.

There are no mechanical devices to fuss with when you apply the dust cap or when you wish to remove it in a hurry. Besides giving protection to the tire valve the dust cap adds materially to the appearance of the car. The new cap is manufactured by A. Schrader's Son, Inc., Brooklyn, N. Y.

MARKETS

Cottons and Fabrics

NEW YORK, January 8, 1923

COTTON advanced to 27 cents a pound in the last week of 1922, the highest price for the year and a price that was 12 cents above the prices current in the early months of the year. Owing to the general improvement which has taken place in trade and industry, with the prospect that domestic mills will consume more cotton than last year, still higher prices are predicted.

As a result of the advance of the raw material the fabric market worked higher. The cotton situation has now become a source of some anxiety. This year's short crop has followed on top of the smallest crop in twenty-five years and the demand for cotton has been increasing and increasing. Exports of cotton, it is true, are not as great as last year, but the buying power of the country for cotton goods, as well as for all other products, has increased enormously during the last year. The remarkable holiday trade throughout the country was a reflection of this new buying power and its possibilities are to be seen in the value of the farm crops for 1922 estimated at $7,572,830,000 as against $5,729,912,000 in 1921.

The exports of cotton from the United States which had been increasing for successive months showed a decrease in the last week in December. The shipments amounted to 75,324 bales as compared with 95,314 bales for the corresponding period last year. Total exports from August 1 to December 29 amounted to 2,718,220 bales which is 133,955 bales less than exports in the corresponding period of 1921.

Prices of tire fabrics were nominal during the period. There were offerings of carded peeler as low as 60 cents but in general the mill lists held between 62 and 65 cents. Cord fabrics are far in advance in demand over square woven construction. With cotton around 27 cents any reduction in fabric prices is hardly to be expected and another factor that may have a material effect on the fabric markets in which we are interested is the expected increase in the output of the tire factories. It is estimated that the automobile output of 1923 will be 2,500,000 new cars and that 42,000,000 tires will be manufactured.

Cotton prices as of January 8 on the New York Cotton Exchange follow:

	Open.	High.	Low.	Close	Previous Day
Jan.	26.10	26.32	26.10	26.27	26.42
March	26.45	26.56	26.35	26.49@50	26.67
May	26.53	26.73	26.52	26.68	26.81
July	26.34	26.47	26.30	26.40@41	26.55
Oct.	24.55	24.65	24.50	24.62	24.75

EXTRA STAPLE COTTON

There was an increased demand for extra staple cotton during the last week of the year compared with the quiet market of previous weeks. It is the belief that the new year will show a marked improvement. Few mill men look for any material lowering of prices.

Inch and a quarter, strict middling, sold at 34½ to 35½ cents with inch and three sixteenths at 32½ to 33 cents.

Egyptian spots attract buying as they are offered at prices cheaper than cotton for shipment. Medium grade Sak is quoted at 34 to 34½ cents and medium grade uppers 30 to 31 cents for spots and 31½ and 32 for shipment.

Pimas maintain their price strength with the sale of a number of good sized lots. No. ones are strong around 37½ cents and No. twos are offered at 36½ cents. Some No. three Pima has been sold at 35 to 35½ cents for shipment from Arizona.

Peruvian mitafifi of full staple is available on spot at 30 to 31 cents, which is substantially below the price asked for the same staple for shipment from Peru.

Latest quotations on extra staple cotton prices, strict middling in grade and of very high standard of stapling, are as follows:

1 1/8 inch, 31 to 32 cents.
1 3/16 inch, 32½ to 33 cents.
1 1/4 inch, 34½ to 35½ cents.
1 5/16 inch, 36 to 38 cents.

THE EGYPTIAN CROP ESTIMATE

There is a considerable difference this year between the estimate of the 1922 crop as fixed by the Government and the estimate made by the Alexandria General Produce Association; the largest difference recorded in many years between these two authorities. The Government fixed the crop at 4,002,000 cantars and the Produce Association at 4,800,000 cantars.

PIMA CROP 42,000 BALES

The final yield of cotton in Arizona will approximate 42,000 bales according to the latest estimate. About 100,000 acres will be harvested.

This season about 77,000 acres were planted to the long staple Pima variety with practically the entire acreage being in Maricopa county. As a result of the early frosts the acre yield is lower than usual, being about 190 pounds or about four tenths of a bale per acre. There were 23,300 acres planted to short staple, 80 per cent of which is in Yuma county. The average yield of the short staple is estimated at 223 pounds to the acre.

The following revised figures for the last three years and the estimated crop for this year, are interesting:

	Acreage	Average Yield (lbs.) Per Acre	Total Bales 500 pounds
1922	100,000	198	42,000
1921	90,000	213	40,000
1920	230,000	224	103,000
1919	107,000	270	60,000

TIRE FABRICS

It would not be at all surprising if the tire fabric market would follow the other fabric markets which have firmed to higher prices due to higher raw cotton. Some Eastern mills have advanced quotations slightly and further advances are looked for when the January orders begin to come in. A leading Akron tire manufacturer, was in the market late in December for 1,500,000 pounds of fabrics and a considerable part of the order was satisfied. A good part of this order was for 14 ounce bicycle fabric.

CORD FABRICS

Combed Sakellarides		.80	@	.85
Carded Sakellarides	lb.	.75	@	.80
Combed Peeler	lb.	.75	@	.78
Carded Peeler	lb.	.62	@	.67
Combed Egyptian uppers	lb.	.75	@	.80
Carded Egyptian uppers	lb.	.70	@	.75

SQUARE WOVEN

17¼-ounce Egyptian uppers, combed	lb.	.73	@	.77
17¼-ounce Egyptian uppers, carded	lb.	.67	@	.73
17¼-ounce Sakellarides, combed	lb.	.77	@	.82
17¼-ounce Sakellarides, carded	lb.	.72	@	.77
17¼-ounce Peeler, combed	lb.	.73	@	.76
17¼-ounce Peeler, carded	lb.	.60	@	.64

SHEETINGS—Higher cotton markets forced the mills to ask higher prices for sheetings and the market was active during the two weeks period, closing very firm. Sales of 40 inch, 3.60, were made at 13½ cents and 13¾ cents was asked for 40 inch, 2.85.

DUCKS—Prices hold unchanged in a quiet but firm market. Most constructions sold in a better way last year than during the previous year. December was an unusually good month. Enameling is quoted at 48½ at 52 cents and Single filling 22 at 22½ cents. Double filling brings 23½ at 24½ cents.

BURLAPS — The market developed considerable activity the last days of 1922 with light weight burlaps holding the bulk of interest. During the period the market was erratic and difficult to gauge as it was affected by the fluctuations of Sterling. 8 ounce, 40 inch, is offered at 7.25 and 10 ounce, 40 inch is quoted at 9.00 at 9.05 cents.

Chemicals and Compounding Ingredients

THE INDUSTRIAL CHEMICAL MARKET—NEW YORK, JANUARY 8, 1923—Business in the Industrial Chemical market was of a purely routine character during the last period as a result of the holidays and the inventory season. Inquiry was very slight and trading was in small volume as consumers for the most part seemed pretty well covered on their requirements. Quotations on most important items are practically the same as reported in our last issue. Imported materials have been unusually firm in a market of such limited demand, due perhaps, to the high cost of replacement. The strong feature of the market during the past two months has been the excellent buying on contract for 1923. The volume of business done in this way has been very encouraging and is one reason for the strong tone of the market. It is the general opinion in the trade that business will soon become active again and continue in good volume through the spring months.

ACCELERATORS

Organic

Aldehyde			
ammonia, crystals	lb.	$ .93 @	—
Aniline oil, bulk basis,	lb.	.16 @	.17
Excellerex,	lb.	.35 @	.45
Formaldehyde-Aniline	lb.	.51 @	—
Hexamethylene-tetramine	lb.	.95 @	.97½
Paraphenylenediamine	lb.	1.50 @	1.55
Thiocarbanilide, kegs	lb.	.27 @	.32
Vulcocene	lb.	.35 @	—

Inorganic

Lead, sublimed blue	lb.	.08 @	—
Lead, white	lb.	.08 @	—
Litharge, domestic	lb.	.08½ @	.10¼
imported	lb.	.17 @	—
Lime, Superfine	lb.	.02 @	.02½
Magnesia, calcined,			
light,	lb.	.24 @	—
extra light	lb.	.45 @	—
heavy	lb.	.05 @	.05½
Orange Mineral	lb.	.13¼ @	.14¼

COLORS

Blacks

Carbon Black	lb.	.16 @	.20
Micronex	lb.	.17 @	24
Lamp Black	lb.	.12 @	.40
Bone "	lb.	.05½ @	.07½
Drop "	lb.	.07½ @	.16
Ivory "	lb.	.15 @	.45

Blues

Prussian	lb.	.55 @	.60
Ultramarine	lb.	.10 @	.30
Cobalt	lb.	.21 @	.26

Browns

Iron oxide	lb.	.05 @	.06
Sienna, Italian,	lb.	.05½ @	.08
Umber, Turkey,	lb.	.05½ @	.07
Vandyke, domestic		.04½ @	.05

Greens

Chrome, light	lb.	.30 @	.32
medium	lb.	.35 @	.36
dark	lb.	.36 @	.45
commercial	lb.	.12 @	—

Reds

Antimony, crimson	lb.	.40 @	—
golden	lb.	.19 @	.25
red sulphuret	lb.	.20 @	.22
Indian, English, pure	lb.	.13 @	.15
Para toner	cwt.	1.00 @	1.10
Toluidine toner	lb.	2.10 @	—
Venetian red	lb.	.03½ @	.06
Vermillion, quicksilver,			
English	lb.	1.35 @	1.45
domestic	lb.	.25 @	.30

Whites

Albalith	lb.	.06½ @	.07
Aluminum bronze	lb.	.55 @	.60
Asolith	lb.	.06 @	.06½
Lithopone, domestic (factory)	lb.	.06 @	.06½
Zinc Oxide—American Process			
American Horse Head Special	lb.	.08 @	.08½
XX red	lb.	.07½ @	.08
American Azo:			
ZZZ (lead free)	lb.	.07½ @	.08
ZZ (under 5 per cent leaded)	lb.	.06¾ @	.07¼
Z (8-10 per cent leaded)	lb.	.06½ @	.06¾
Zinc Oxide—French Process			
White seal	lb.	.11½ @	.11¾
Green seal	lb.	.10¼ @	.10¾
Red seal	lb.	.09¼ @	.09¾

Yellows

Chrome, light	lb.	.17 @	—
dark and medium	lb.	.17 @	—
Ocher, French	lb.	.03¼ @	.04
domestic	lb.	.03 @	.03¼

COMPOUNDING INGREDIENTS

Aluminum flake	ton	15.00 @	30.00
hydrate	lb.	.16 @	.18
Ammonia carbonate,	lb.	.10¼ @	.12½
Barium carbonate	ton	71.00 @	76.00
Barium Dust	lb.	.05 @	—
Barytes, southern off-color,	ton	15.00 @	20.00
Western, prime white,	ton	26.00 @	—
Basofor	lb.	.04¾ @	—
Blanc fixe, dry, f.o.b. works	lb.	.04¼ @	.04½
Carrara filler	lb.	.02 @	—
Chalk, precipitated,			
extra light	lb.	.03½ @	.04¼
heavy	lb.	.02½ @	.03¼
Clay, China, domestic,	ton	15.00 @	16.50
imported	ton	16.25 @	23.25
Dixie	ton	22.00 @	32.00
Blue Ridge	ton	20.00 @	30.00
Fossil flour	ton	60.00 @	—
Glues, extra white	lb.	.30 @	.40
medium white	lb.	.20 @	.26
cabinet	lb.	.18 @	.30
cabinet low grade	lb.	.15 @	.18
common bone	lb.	.08½ @	.14
Graphite flake, bbls.	lb.	.05 @	—
amorphous	lb.	.05 @	—
Infusorial earth, powdered	ton	60.00 @	—
bolted	ton	65.00 @	—
Liquid rubber	lb.	.15 @	—
Mica, powdered	lb.	.15 @	—
Rotton Stone (powdered)	lb.	.02½ @	.04½
Silica (gold bond)	ton	31.00 @	—
Soapstone, powdered	ton	12.00 @	15.00
Starch, powdered	cwt.	2.80 @	2.90
Talc, domestic	ton	15.00 @	18.00
French	ton	25.00 @	32.50
French, high grade	ton	43.00 @	48.00
Italian	ton	47.00 @	58.00
Terra Alba	cwt.	1.85 @	2.00
Tripoli, white	lb.	.02 @	.02½
Whiting, commercial	cwt.	1.00 @	1.10
Quaker	ton	13.00 @	15.00
English cliffstone	cwt.	1.60 @	1.75
gilder's bolted	cwt.	1.10 @	1.25
Paris whiteAmerican	cwt.	1.25 @	1.35
Wood pulp XXX	ton	35.00 @	—
" " X	ton	25.00 @	—
Zinc Oxide—			
5 per cent leaded		.06¾ @	.07¼
10 per cent lead sulphate	lb.	.06½ @	.07
20 per cent lead sulphate	lb.	.06½ @	.07
35 per cent lead sulphate	lb.	.06½ @	.07

(Also see whites)

MINERAL RUBBER

Gilsonite	ton	65.00 @	—
Genasco (factory)	ton	60.00 @	—
Hard hydrocarbon	ton	33.00 @	42.00
Soft hydrocarbon	ton	32.50 @	38.00
Pioneer M.R.	ton	42.00 @	44.00
320/340 M. P. hydrocarbon (c. l. factory)	ton	40.00 @	50.00
300/310 M. P. hydrocarbon (c. l. factory)	ton	35.00 @	45.00
Synpro, granulated, M. R. (factory)	ton	55.00 @	72.00

SOFTENERS

Acids

Acetic, 28 per cent	cwt.	3.17 @	3.92
Crosylic, 97 p. c.	gal.	.60 @	.62
95 p. c.	lb.	.55 @	.57
Muriatic, 20 degrees	cwt.	1.00 @	1.10
Nitric, 36 degrees	cwt.	4.50 @	5.00
Sulphuric, 66 degrees	ton	14.00 @	16.00
60 degrees	ton	9.00 @	12.00
Tartaric, crystals	lb.	.32 @	—

Alkalies

Caustic soda, 76 p.c.	cwt.	3.45 @	3.75
Soda ash, 58 p.c.	cwt.	1.95 @	2.30

Oils

Castor, No. 3, bbls.	lb.	.12½ @	—
Corn, crude, bbls.	lb.	.10 @	—
refined	lb.	.11½ @	—
Chinawood, bbls.	lb.	.12¾ @	.13
Cottonseed,		.11½ @	.12
Glycerine, drums	lb.	.18½ @	.19
Linseed, domestic	gal.	.87 @	—
imported	gal.	.86 @	—
Palm Niger		.08¼ @	—
Lagos	lb.	.07¼ @	.07½
Peanut, domestic, crude	lb.	.13 @	—
Pine, steam distilled	gal.	.78 @	.85
Rapeseed, refined	gal.	.83 @	—
blown	gal.	.93 @	—
Rosin, first rectified	gal.	.45 @	—
second rectified	gal.	.47 @	—
Tar, commercial	gal.	.26 @	.28
Soya Bean		.10½ @	.11
Petrolatum, standard	lb.	.05 @	.08
dark amber	lb.	.03⅝ @	.03⅞

Resins and Pitches

Cumar resin, hard	lb.	.09 @	.10
soft	lb.	.09 @	.10
Tar Retort	bbl.	10.00 @	12.00
kiln burned	bbl.	11.50 @	13.00
Pitch, Burgundy	lb.	.05 @	—
coal tar	lb.	.01½ @	—
pine tar	lb.	.03 @	—
Rosin, grade K	bbl.	6.75 @	—
Shellac, fine orange	lb.	.90 @	—

Solvents

Acetone, drums	lb.	.21 @	—
Alcohol, denatured,			
No. 1 bbls.	gal.	.43 @	.45
Benzol, 90 per cent	gal.	.27 @	.32
pure	gal.	.30 @	.35
Carbon bisulphide,	lb.	.06½ @	.07½
tetrachloride	lb.	.09½ @	.10½
Dimethylaniline	lb.	.36 @	.38
Motor gasoline,			
steel bbls.	gal.	.24 @	—
Naptha, V. M. & P.	gal.	.23 @	—
Toluol, pure	gal.	.30 @	.35
Turpentine, spirits	gal.	1.39 @	—
wood	gal.	1.30 @	—

Waxes

Beeswax	lb.	.45 @	—
Carnauba, No. 1	lb.	.20 @	—
Ceresin, white	lb.	.12 @	—
Bayberry	lb.	.20 @	.24
Montan, crude	lb.	.03½ @	.04
Ozokerite, black	lb.	.18 @	—
green	lb.	.26 @	.28
Paraffine	lb.	.02¾ @	.04
Sweet wax	lb.	.10 @	.12

SUBSTITUTES

Black	lb.	.08 @	.13
White	lb.	.09 @	.16
Brown	lb.	.09 @	.15
Brown factice	lb.	.09 @	.15
White factice	lb.	.08½ @	.15

VULCANIZING INGREDIENTS

Black hyposulphite	lb.	.25 @	.30
Sulphur chloride (jugs)	lb.	.13½ @	.15
" (drums)	lb.	.08 @	.10
Sulphur flour (bbls.)	cwt.	2.60 @	—
(bags)	cwt.	2.35 @	—
100 per cent pure (superfine)	cwt.	2.60 @	—
Sulphur, 100 per cent pure,	cwt.	2.30 @	2.65
Bergenport brand (bags) (bbls.)	cwt.	2.55 @	2.90

Barytes—The market showed little change during the period and prime Western continues to be quoted at $26 with Southern off-color at $15 to $20 according to grade.

Lithopone—Leading producers have all they can do to supply the demand and in fact some producers are sold ahead for many months for their full output. The demand during the late months of the year was beyond anything experienced before and with the carry-over unusually small it is predicted that there will be a shortage of high grade lithopone this spring. No change in prices were announced and quotations on domestic are: Barrels, car lots, 6 to 6½ cents; less than car lots, 6¼ to 6½ cents. Imported brings 6 to 6½ cents.

Blanc Fixe—A quiet steady market prevailed with prices unchanged. Dry is quoted at 4¼ to 4½ cents per pound and pulp $40 to $50 per ton.

Litharge—There was little of interest in this market during the two weeks period except a general feeling that the demand would improve early in the new year. Quotations were: 100 pound kegs, less than 500 pounds, 13.25 to 13.50 cents; 500 to 2,000 pounds, 11.92 to 12.17 cents; 2,000 to 10,000 pounds, 11.44 to 11.69 cents.

Zinc Oxide—The tire manufacturers were heavy consumers of this material last year and producers look for big business from this quarter through the spring months. Leading producers advanced prices ½c lb. French process, red seal, is quoted at 9¼ cents per pound, barrels, car lots, less than car lots, 9¾ cents; green seal, barrels, car lots 10¼ cents, less than car lots, 10¾ cents; white seal, barrels, car lots, 11½ cents, less than car lots 11¾ cents.

Palm Oil—There was a better inquiry and the market continued firm though sales were rather light. Lagos was offered at 7¼ cents per pound and Niger at 7⅛ cents.

Whiting—The tone of the market was quiet and steady with the demand about normal. Quotations were: Commercial, $1.00 per hundred pounds; gilders bolted, $1.10; English cliffstone, $1.50; American paris white, $1.25.

Talc—The demand for both domestic and foreign material continues good and the market holds steady with Domestic quoted at $15 to $18 a ton; French, $25 to $32.50; Italian, $47 to $58.

Caustic Soda—The demand on contract has been enormous and producers are sold months ahead; some not accepting further orders for the first six months this year. Standard brands, 76 per cent, are selling at $3.50 to $3.75 per cwt.

Soda Ash—As in the case of caustic soda producers have taken on about as much as they can handle for the first part of 1923. The tone of the market is very strong but no changes in price were noted. Light is quoted at $1.75 to $2.10 in bags and $1.95 to $2.30 in barrels.

Aniline Oil—Supplies are not heavy and this has given prices a firm tone although trading continues light. Quotations remain unchanged at 16 to 17 cents per pound.

RUBBER PASSES 30 CENTS

JANUARY 10, 1923 proved a "red letter day" in the New York crude rubber market, when first latex and ribbed smoked sheet reached and passed the 30-cent mark predicted by THE RUBBER AGE ever since the British restriction and export duty plan went into effect on Nov. 1 last. Tire and rubber goods factories, are now active buyers in this market, realizing at last that the day of crude rubber bargains has gone, perhaps never to return.

Spot rubber was quoted on Jan. 10 at 30¼ bid, 30½ asked; February delivery 30 3/8 at 30 5/8; March 30 5/8 at 30 3/4; April-June 31 5/8 at 31 7/8; July-December 32 5/8 at 33.

Crude Rubber

NEW YORK, Jan. 2, 1923

THE price of the best grade of spot rubber is gradually nearing the 30-cent level and those dealers who are "bullish" on the market look for this figure in the very near future. Today the asking price of ribbed smoked sheet and first latex is approximately 29 cents. There is a decided rising tendency and it would not be surprising if the 30 cent mark were passed and the 32-cent level reached before we publish another market report.

The expected visit to this country of three important British rubber men, representing the Rubber Growers' Association of London—the organization that was largely instrumental in putting into effect the Stevenson restriction-of-production plan—may have some influence upon the course of prices during the current month; but it is hardly likely that any serious modifications of the export duty scheme now in effect will follow the conferences of the Britishers with representatives of the Rubber Association of America. It is more likely that the soundness of the British government policy will be confirmed in the minds of the visitors after learning the facts. At the same time the rubber industry will probably be reassured by the R.G.A. delegates that nothing will be done to injure the interests of the American rubber goods manufacturers, the largest consumers of crude rubber.

Quotations of this date are practically as follows:

Plantations			
Ribbed Smoked Sheets	.28¾	@	—
First Latex, spot	.28⅞	@	—
January/March	.29	@	.29¼
April, May, June	.30	@	.30¼
July/December	.31	@	.31¼
Amber Crepe No. 1, spot	.28½	@	—
Amber Crepe No. 2, spot	.28¼	@	—
Amber Crepe No. 3, spot	.27⅞	@	—
Light Clean Thin Brown Crepe	.27¾	@	—
Commercially Clean Thin Brown Crepe	.27½	@	—
Specky Brown Crepe	.27¼	@	—
Roll Brown Crepe, spot	.26⅞	@	—
Paras			
Madeira Fine	.27½	@	—
Acre Fine	.25	@	—
Up-river Fine	.24¾	@	—
Up-river Medium	.22¾	@	—
Up-river Caucho Ball (shipment)	.21½	@	—
Up-river Coarse	.18¾	@	—
Islands Fine	.22	@	—
Islands Medium	.20	@	—
Islands Coarse	.13½	@	—
Cameta	.14	@	—
Xingu Ball	.19¾	@	—
Tapajos Fine	.22¾	@	—
Tapajos Medium	.20½	@	—
Pontianac			
Prime Pressed	.16	@	—
Plantation	.07¾	@	—
Bangermassin	.08½	@	—
Siak Gutta Percha	.21½	@	—
Prime Macassar	3.00	@	—
Balata			
Panama Block	.40	@	—
Surinam Sheets	.75	@	—
Columbia Block	.55	@	—
Venezuela Block	.70	@	—

Reclaimed Rubber

NEW YORK, Jan. 2, 1923

Virtually no change has taken place in this market since our report of two weeks ago. Prices are holding firm, and the outlook is for a larger demand for all grades of reclaims at the best figures that have prevailed in months.

Quotations of this date are about as follows:

Standard Reclaims			
Floating	.15½	@	.16⅛
Friction	.15½	@	.16⅛
Boots and Shoes	.11	@	.11⅛
Boots and Shoes (washed)	.13⅛	@	.14
Mechanical	.09	@	.10
Hose	.10	@	.11
Tires, truck	.09	@	.10
Tires, auto	.09½	@	.10
White	.13	@	.14

Scrap Rubber

NEW YORK, Jan. 2, 1923

Although consumers are still holding off, being pretty well stocked up with various grades of scrap, dealers are actively buying and for this reason some grades have advanced sharply. The dealers feel that the factories will have to pay more for good scrap rubber and are buying with the "long look ahead."

Quotations of this date are as follows:

Auto tire peelings	.01⅛	@	.01¼
Standard White auto ....ton	25.00	@	—
Mixed auto .....ton	13.00	@	15.00
Bicycle tires	.00½	@	.00⅝
Clean solid truck tires	.01½	@	.01⅝
Boots and shoes	.03½	@	.03¾
Arctics, trimmed	.02½	@	.02¾
Arctics, untrimmed	.02¼	@	.02¼
Inner tubes, No. 1	.04¼	@	—
Inner tubes, compounded	.03⅝	@	—
Inner tubes, red	.03½	@	—
Battery jars, clean hard rubber	.01¼	@	—
Rubber Hose	.00½	@	.00⅝
Red packing	.00¾	@	.01
White druggist sundries	.01¼	@	—

American Rubber Patents

1,438,735 Robert R. Williams, Roselle, N. J., assignor to Western Electric Co., New York, N. Y. Rubber Composition.

1,438,775 Gustav Milse, Bremen, Germany, assignor to Emil Zimmermann, New York, N. Y. Exchangeable India-Rubber Heel.

1,438,245 Ralph F. Knight, Beverly, Mass., assignor to United Shoe Machinery Corp., Paterson, N. J. Mold for Manufacturing of Rubber Soles.

1,438,604 Rodney N. McClure, Los Angeles, Calif. Airless Vehicle Tire.

1,438,930 Thomas Midgley, Springfield, Mass., assignor to The Fisk Rubber Co., Chicopee Falls, Mass. Device for Removing Cores from Tire Casings.

1,438,663 Marion Roderick, Missoula, Mont. Vehicle Tire.

1,438,231 Daniel E. Goodenberger, Akron, Ohio, assignor to The Firestone Tire and Rubber Co., Akron, Ohio. Method and Apparatus for Constructing Tires.

1,439,547 James E. Grosjean, Lima, Ohio. Heel For Boots or Shoes.

1,439,564 Hector J. Lucier, Stoughton, Mass. Composite Heel for Boots and Shoes.

1,439,485 Max L. Schlueter, Chicago, Ill. Tire for Vehicle Wheels.

1,439,544 Lucien Gaisman, Woodley, Stockport, England. Guard for Rubber Mills and Like Machines.

1,439,104 Edward B. Helwitz, Wausau, Wis. Rubber Tip for French Heels.

1,439,197 James H. Smith, Jr., Passaic, N. J. Method and Apparatus for Making Vehicle Wheel Tires.

Trade Marks Applied For

[The following are trade-mark applications pertinent to our field pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Marks Company, Barrister Building, Washington, D. C. or Bush Building, 130 West 42 Street, New York, trade-mark specialists. As an additional service feature to its readers this Journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.]

SORBO—No. 137,551. Sorbo Rubber-Sponge Products, Ltd., Woking, England. For goods manufactured from India rubber, namely, belting for machinery, hose, machinery packing, gaskets and tires for vehicles.

BABY LINCOLN—No. 165,728. Elmer E. Temple, Columbus, Ohio. For tire covers and tires.

TRUSTY—No. 159,290½. Racine Rubber Company, Racine, Wis. For rubber or rubber and tire for vehicles.

WEST POINT OFFICER'S HIKER—No. 156,547. Remy-Landesberg Shoe Co., Phila., Pa. For shoes, made of leather, rubber, fabric or any combination thereof.

REGAL—No. 164,582. Leo L. Chadwin, doing business as Chadwin Tire & Rubber Co., Phila., Pa. For tires and inner tubes.

DOMINO—No. 168,688. New York Belting and Packing Company, N. Y. C. For rubber heels.

MAGNA—No. 168,234. Phillips' Patents Limited, London, England. For india rubber plates or pads for attachment to the soles of boots and shoes.

COUNTERBALANCE—No. 167,701. Counterbalance Rubber Heel Co., Elyria, Ohio. For rubber heels.

RADIO below picture of eagle. No. 166,032. Peter Barbieri, Perth Amboy, N. J. For rubber soles and heels.

O. K. in white letters on black disc in center of a circle. No. 164,998. Appleton Rubber Company, Franklin and Boston, Mass. For rubber compound, splicing tape, and black friction adhesive tape.

New Incorporations

DELAWARE

Mellinger Tire & Rubber Co. $100,000. Agent, Corporation Trust Co. Principal office, Wilmington, Delaware.

ILLINOIS

Axtell Auto Co., to distribute "Corduroy" cord tires. $24,000. J. E. Axtell, president; P. M. Axtell, secretary. Principal office, 1507 Michigan Boulevard, Chicago, Illinois.

KENTUCKY

Federal Tire Sales Co., to deal in tires and accessories. $2,000. Incorporators: T. Thierman, J. J. Etheridge, L. B. Yager, and T. J. Yager. Principal office, Louisville, Kentucky.

MASSACHUSETTS

Peninsula Rubber Company, to manufacture rubber goods. $90,000. Incorporators: Andrew P. Keegan, Thomas F. Murray, Secondino Percuico, Lawrence F. Keegan and Francis J. Horgan—all of Boston, Massachusetts. Principal office, Boston, Massachusetts.

F. S. Carr Co., to manufacture waterproof automobile and carriage fabrics. $1,000,000; 5,000 shares, 7 per cent preferred and 5,000 shares of common stock.

NEW JERSEY

Semple Manufacturing Co., to manufacture inner tubes. $100,000. C. H. Semple, president; W. B. John, treasurer; J. W. Miller, secretary. Principal office, Trenton, New Jersey.

NEW YORK

William M. Henry Co., to deal in rubber goods. $20,000. Incorporators: William McInerney and M. McInerney. Attorneys, Stires and Barrow, 220 West 42nd street.

Yale Tire and Accessories Corporation, to deal in tires and accessories. $20,000. Incorporators: P. T. Kammerer, Jr., 157 East 46th street; E. Lewin, 870 Manida street—New York City; G. Meisels, 240 Ralph avenue, Brooklyn, New York.

Ace Tire & Rubber Co., Inc., to manufacture tires. $500. Incorporators: B. A. Daly, T. F. MacMahon, L. W. Eggersman—1400 Broadway, New York City.

OHIO

The Textile Rubber Co. $45,000. Incorporators: Poncet Davis, E. S. Teed, D. W. Maxon, E. Andreas and M. M. Minnick. Principal office, Akron, Ohio.

Newton Falls Rubber Co. $500,000. Incorporators: John A. Elden and I. Jordan. Principal office, Cleveland, Ohio.

American-Mutual Manufacturing Co., to manufacture rubber products. $150,000. Incorporators: G. H. Bellman, J. A. Hopkins, C. A. Patterson, J. F. Hower and A. M. Katz. Principal office, Cleveland, Ohio.

Direct Products Co., to manufacture rubber products. $10,000. Incorporators: J. J. Monarty, A. W. Wentz, P. B. Bosworth, I. C. Clark and S. L. Tatum. Principal office, Springfield, Ohio.

TEXAS

Lone Star Rubber Co. $10,000. Incorporators: C. A. Prade, C. S. Appell and M. L. Prade. Principal office, Waco, Texas.

Permit Granted

The B. F. Goodrich Rubber Co., of Detroit, Michigan; capital stock, $500,000. Texas headquarters at Dallas; F. L. Hokesmith, state agent.

Name Changes

Oklahoma Fabric & Rubber Co., to Associated Dollar Tire Co., Wilmington, Delaware.

Capital Increases

I. B. Kleinert Rubber Co., New York, N. Y., to issue 90,000 shares of common stock no par value.

American Hard Rubber Co., New York, N. Y., $5,000,000 to $7,500,000.

COTTON EXPORTS FROM ALEXANDRIA

Dated Alexandria, December 8, 1922

	Receipts Alexandria Cantars	Exports in Bales to England	Continent	America	Total Exports Cantars	Stock Alexandria Cantars
This week	294,977	12,983	5,038	8,134	199,501	2,769,026
Same week 1921 ..	174,824	5,710	6,019	8,068	150,712	2,447,501
" " 1920 ..	130,041	9,052	8,200	800	138,189	1,357,205
Since 9/1/1922 ..	3,721,624	145,718	86,209	68,547	2,284,598	—
Same time 1921 ..	2,608,072	117,909	72,092	71,950	1,995,571	—
" " 1920 ..	1,821,742	65,278	38,494	9,024	862,739	—

Goodyear Suit to be Tried in Akron

Goodyear common stockholders gained a point in their legal fight to dissolve the $85,000,000 reorganization plan of the company, when Judge W. J. Ahern in Common Pleas Court denied application in the suit of Mrs. Laura L. T. Weiss against Clarence Dillon and Owen D. Young, New York bankers, to quash service on the bankers. Ten days were given for pleadings.

This means, said E. M. Wachner, Akron attorney for the plaintiff, that defendants will have to appear in a Summit county, Ohio, court and answer to the merits of the case.

The decision settles jurisdiction in one of the four suits pending against the Goodyear Tire and Rubber Co. The suit against Dillon and Young involves control of the management stock of the company. According to the present agreement, made in May, 1921, the company must pay them $40,000 a year for executive services.

Since filing of the suits the directors have abrogated part of the contract with Leonard Kennedy & Co., New York, requiring payment of $250,000 a year and a percentage of the profits.

Canadian Tire Prices Up

Starting Jan. 8 prices of motor car tires in Canada are advanced 15 per cent, according to an agreement by the chief tire manufacturers in Montreal. Orders at the new scale of prices will be received only until January 20, when it is possible another increase will be announced. Tires for small cars will sell $1 higher, while for the larger sizes the increase will be from $6 to $9.

Rubber products other than tires may advance in price owing to the spectacular soarings on the London market. With rubber 100 per cent above figures of a few months ago and cotton 10 to 15 per cent higher, several of the large firms who were caught with 54c rubber when the price fell to 12c feel that the time has come for recovering some of their losses.

New Bergougnan Directors

Owing to the death of Peter D. Thropp and the resignation of John Thropp, caused by illness, Frank J. Wetzel and Newton K. Bugbee, both of Trenton, have been elected directors of the Bergougnan Rubber Corp., Trenton, N. J.

Thermoid Sues Bank

The Thermoid Rubber Co., Trenton, N. J., has brought suit for $45,900 damages against the Bank of Greenwood, Greenwood, S. C., and J. C. Self, chairman of the board of directors, who is also an officer of the Owen Tire & Rubber Co. of Greenwood. The suit concerns a sale of tires and tubes made by Thermoid to the Owen Co. amounting to $50,678 on the alleged representation by the bank officials that the latter concern was of good financial standing. The plaintiff also charges the bank with illegally loaning the Owen Co. $200,000.